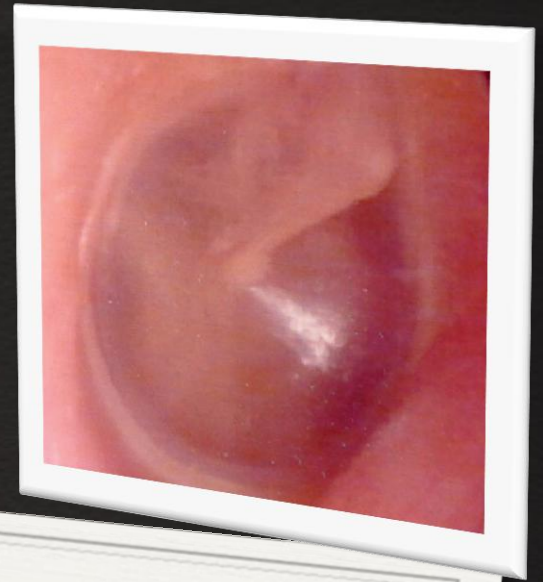
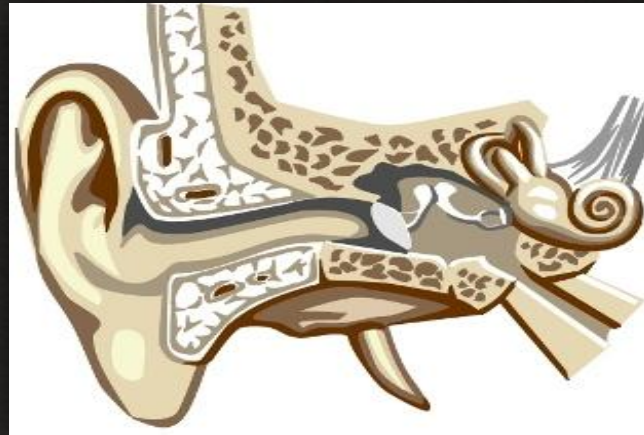
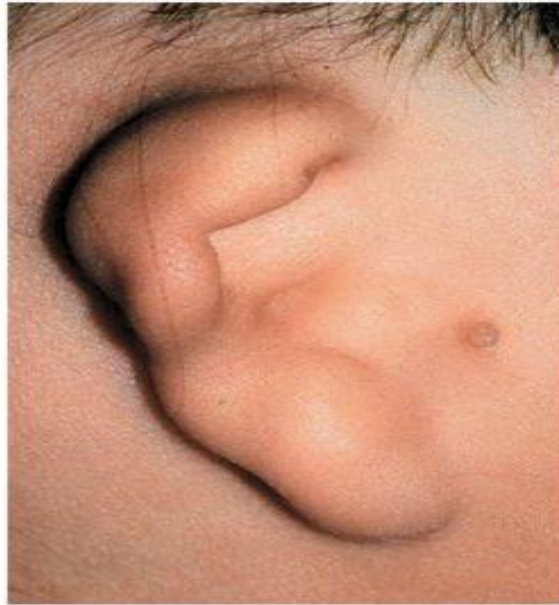




BY: Faree2
Elma7azeez
Round 6

Otology Clinical Cases

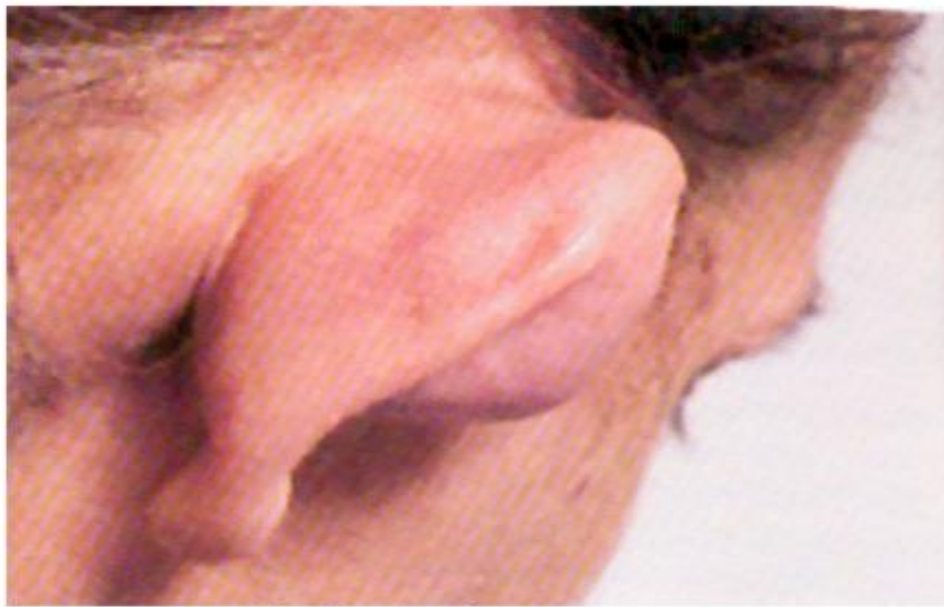
فريق
المحاضرين



Microtia

Congenital meatal atresia with microtia
Failure of canalization of EAC

فريق
المحافظ



Auricular haematoma

Results from :

- *blunt trauma to the ear and accumulation of blood inbetween perichondrium and underlying cartilage.
- *Spontaneous in blood diseases and elderly.

Complication :

Cauliflower ear due to necrosis of cartilage

Treatment :

Drainage under aseptic conditions +bandage or special molds to prevent refilling

فريق
المحافظين



Herpes Zoster

*Reactivated herpes zoster virus (which is dormant in root ganglia)

***Clinical picture:**
associated pain with vesicles

***Complication:**
RAMSEY HUNT SYNDROME (ganglia of the facial & vestibular & cochlear are affected)

فريق
المحافظين



Perichondritis

***Symptoms:**

Severe pain may be fever.

***Signs:**

Dusky red skin

Swollen tender auricle with loss of contour

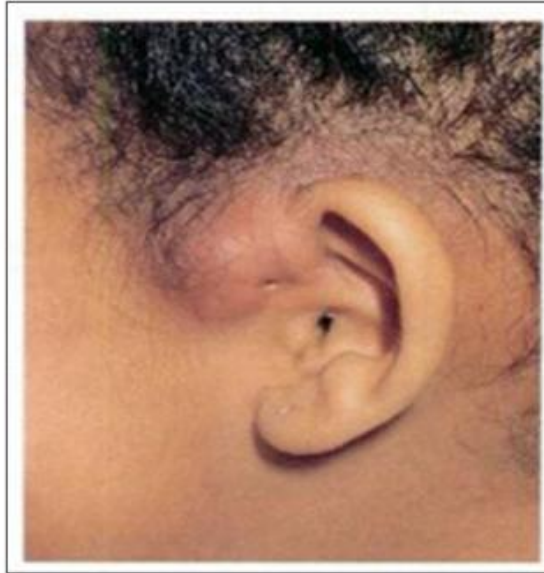
***Complication:**

cauliflower ear

***Treatment:**

Proper antibiotic +drainage

فريق
المحافظ



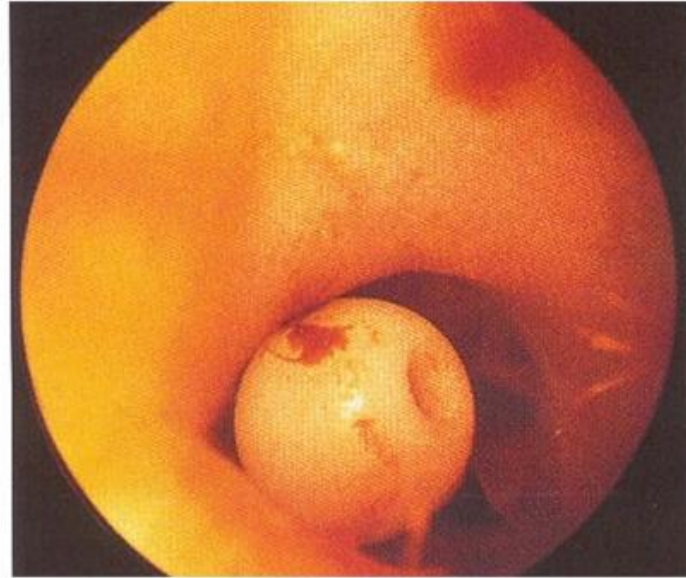
Preauricular sinus

*pinpoint hole in front of auricle.
Only removed if there's superadded infection in cyst.

فريق
المحافظ



FB ear



FB ear

Treatment:

- *ear wash >>>>>contraindicated in vegetables and complete impaction
- *oil or alcohol immersion in case of insect to kill it then remove it by crocodile forceps.
- *general anesthesia if the child is irritable.

فريق
المحافظين



FB ear (Animate)



FB ear + Wax

فريق
المحافظين



Wax

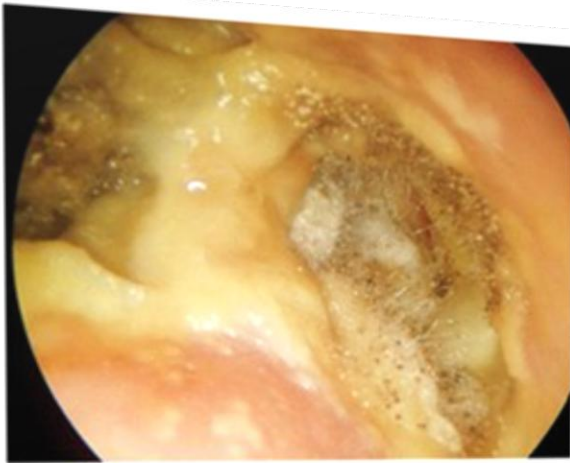
Synptoms:

- *Deafness: sudden following entery of water
- *dicomfort
- *occasional pain (faulty trials by the patient)

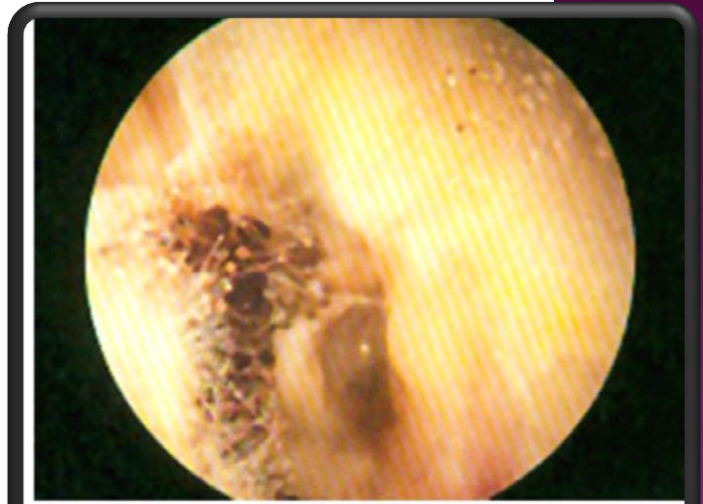
Signs

- *CHL.
- *plug appearing brownish mass with partial or complete obstruction

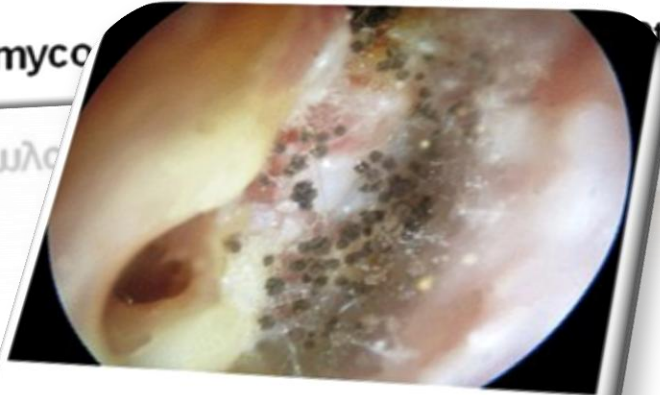
فريق
المحافظين



Otomycosis



Otomycosis



Otomycosis

Fungi;

Aspergillus niger ,flavus,fumigatus

Candida albicans

Symptoms:

ITCHING mainly

Mild pain and deafness

Signs:

External ear canal filled with grayish plug with dark spots .

Treatment:

Removal by ear wash or suctioning.

Local antifungal preparations.

فريق
المحافظ



Acute Localized otitis externa (Furuncle)

*Staph aureus infection.

*Symptoms:

- Pain
- Discharge scanty and purulent
- Deafness>>>>>>> uncommon

*Signs:

- Red tender soft swelling surrounded by hyperemia
- Tenderness on pressing tragus or pulling the auricle

Treatment:

- Systemic and local anti biotic >>>>>>>analgesic.

فريق
المحافظ



Malignant otitis externa

*in diabetic and immunocompromised “*pseudomonas*”

*Clinical picture:

Granulation tissue at the junction between cartilagenous and bony part in the floor.

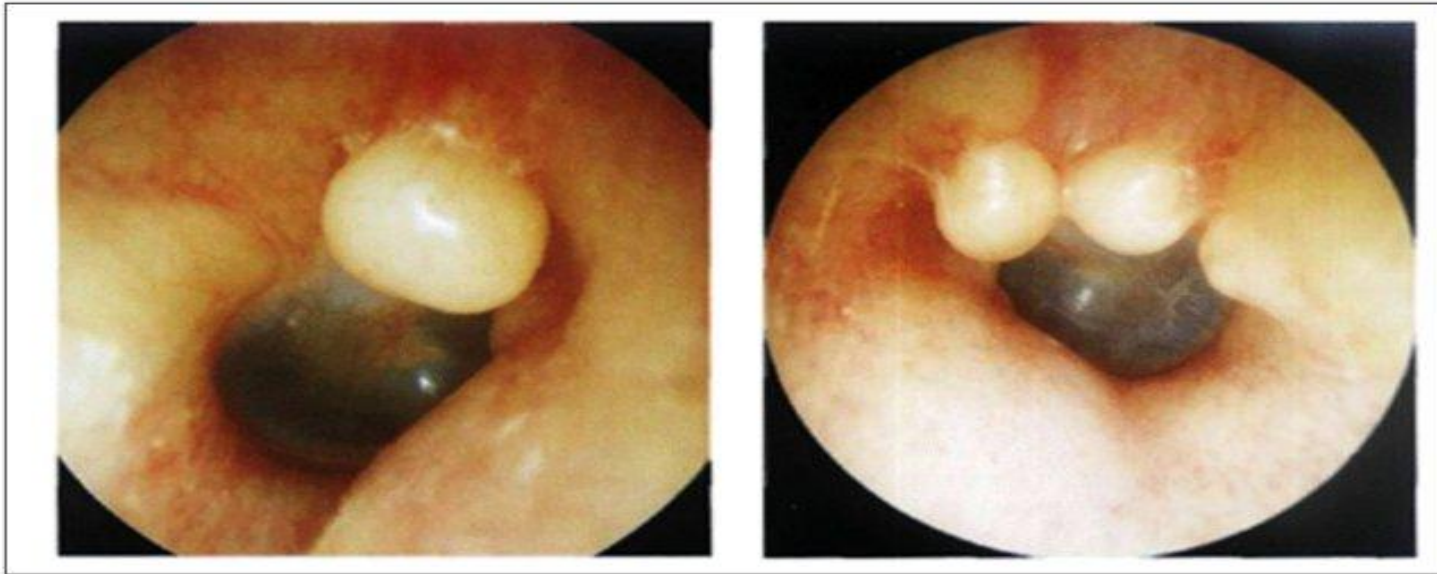
*Complications:

Infection spreads to parotid region and skull base<<<<Facial and cranial nerve palsies.

*Treatment:

- Control of diabetes
- Antipseudomonas
- Surgical debridment

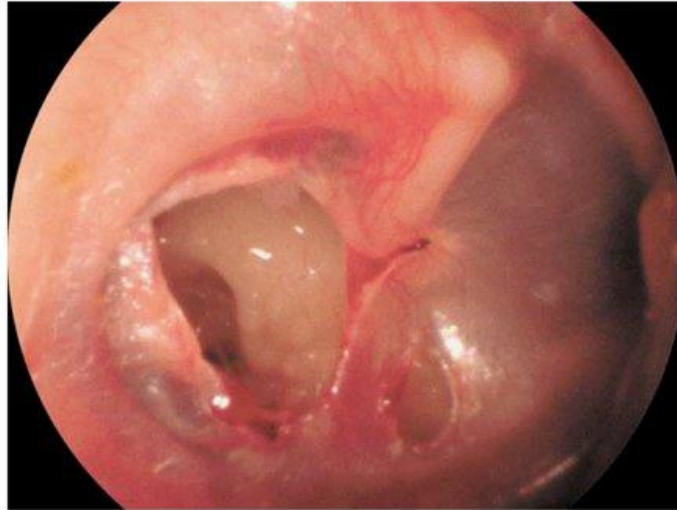
فريق
المحافظ



Exostosis

- *multiple or as a single osteoma
- *Single >>>>>>>Cancellous.
- *Multiple>>>>>>ivory bone.
- *when to excise??????
- If there's obstruction .

فريق
المحافظ



Traumatic perforation

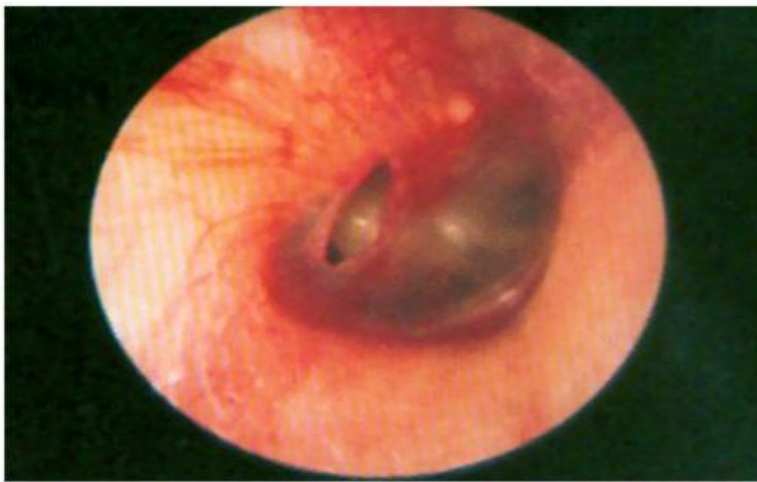
Direct	indirect
*Sharp objects. *faulty ear wash or removal of FB	*sudden strong pressure change. *slaps (left ear) *blast injuries. *fracture of skull base.

Symptoms:

- Transient sharp pain.
- Bleeding
- Mild deafness unless ossicles are affected.

Fate; Spontaneous healing.

فريق
المحافظ



Traumatic TM perforation



Signs:

- CHL>>>>>>>>>only in case of ossicular trauma.
- Delay and 2ry infection make distinctive features lost
- Edges are thin ,irregular , small clots.

Treatment

- Keep ear dry and clean>>>> avoid blowing.
- Short course of systemic antibiotics
- Myringoplasty>>>>>>>>>after 3 months
- Tympanoplasty>>>>>>>>> in ossicular disruption

فريق
المحافظين

Selfinflicted direct

- Pinpoint
- Scratches in EAC
- Posterior part

Indirect

- Different shape (triangular , lancet and star)
- Edges are everted outside



Haemotympanum



Haemotympanum

Haemotympanum:

Occurs in case of barotrauma

فريق
المحافظين

Indications:

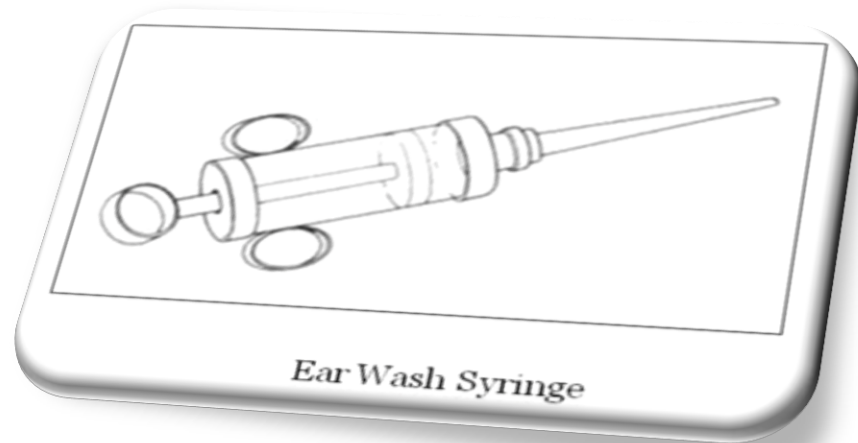
- A-wax plug.
- B-foreign body.
- C-otomycosis.
- D-caloric test

Contraindications:

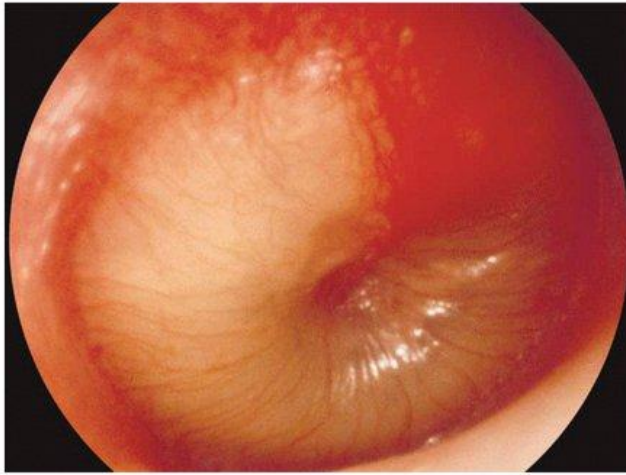
- A-Dry perforation to avoid infection.
- B-Recent trauma.
- C-Impacted foreign bodies like vegetables which become more impacted.
- D-acute external otitis >>>very painful worsen the infl.

Complications:

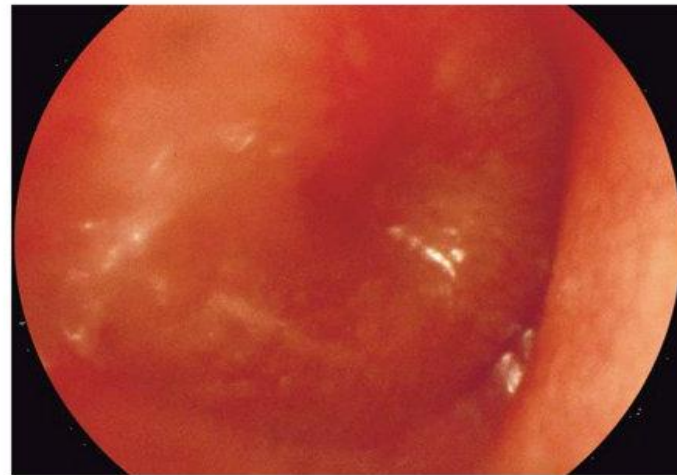
- 1-Caloric stimulations of lateral SSC.
- 2-Vasovagal attack by stimulation of auricular branch of vagus (cough & syncope).
- 3-More impaction of wax or foreign bodies.
- 4-traumatic rupture of drum
- 5-external otitis in case of infected instruments.
- 6-trauma to the skin of EAC >>>pain & bleeding.



فريق
المحافظ



Acute suppurative OM



Acute suppurative otitis media

Organisms:

Strept. Pneumoniae & Hemolyticus, >>>>> Moraxilla Catarrhalis >>>>>>>
H. influenzae >>>>>>> Viral infec preceding the bacterial.

Tympanic membrane:

- Congested
- Bulging
- Yellow spot appears indicating impending rupture

Other signs & symptoms:

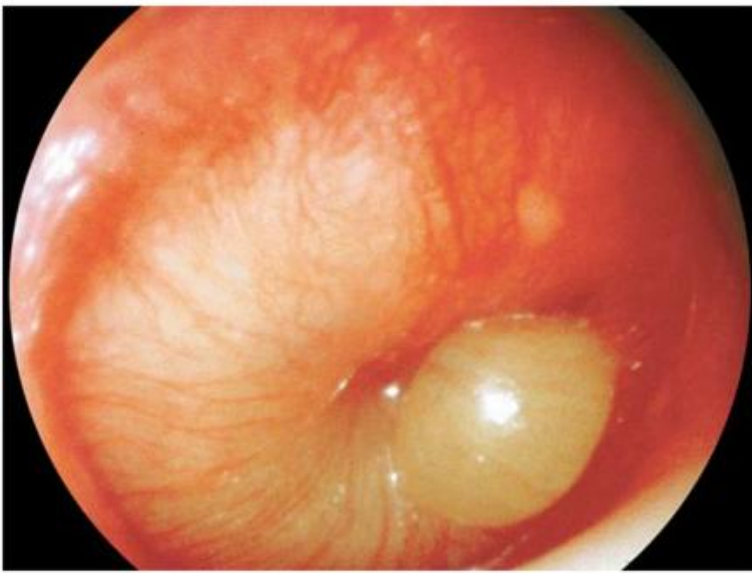
Before rupture :

FEVER >>> CHL >>> SEVERE THROBBING PAIN >>> TENDERNESS OVER MASTOID

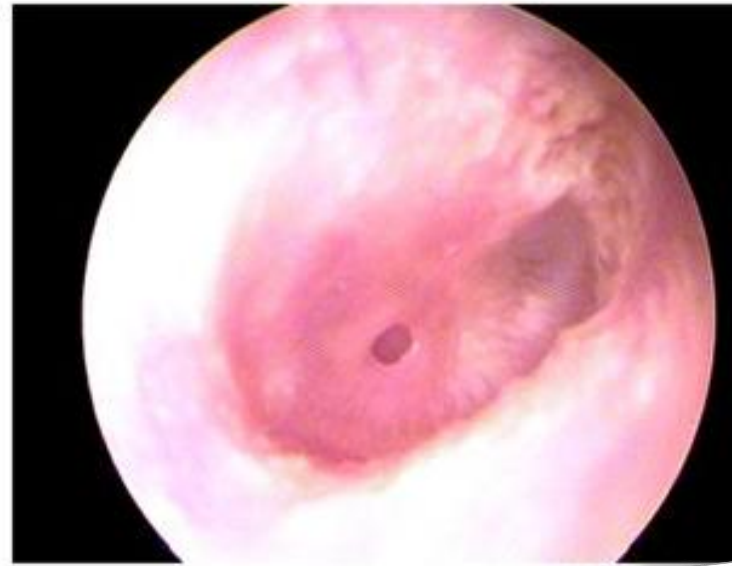
After rupture:

Relief of pain & fever & CHL + Discharge & central perforation.

فريق
المحافظ



ASOM with impending perforation



فريق
المحافظ

Treatment:

Before:

Decongestant + warm glycerin phenol drops + myringotomy in case of impending perforation.

After;

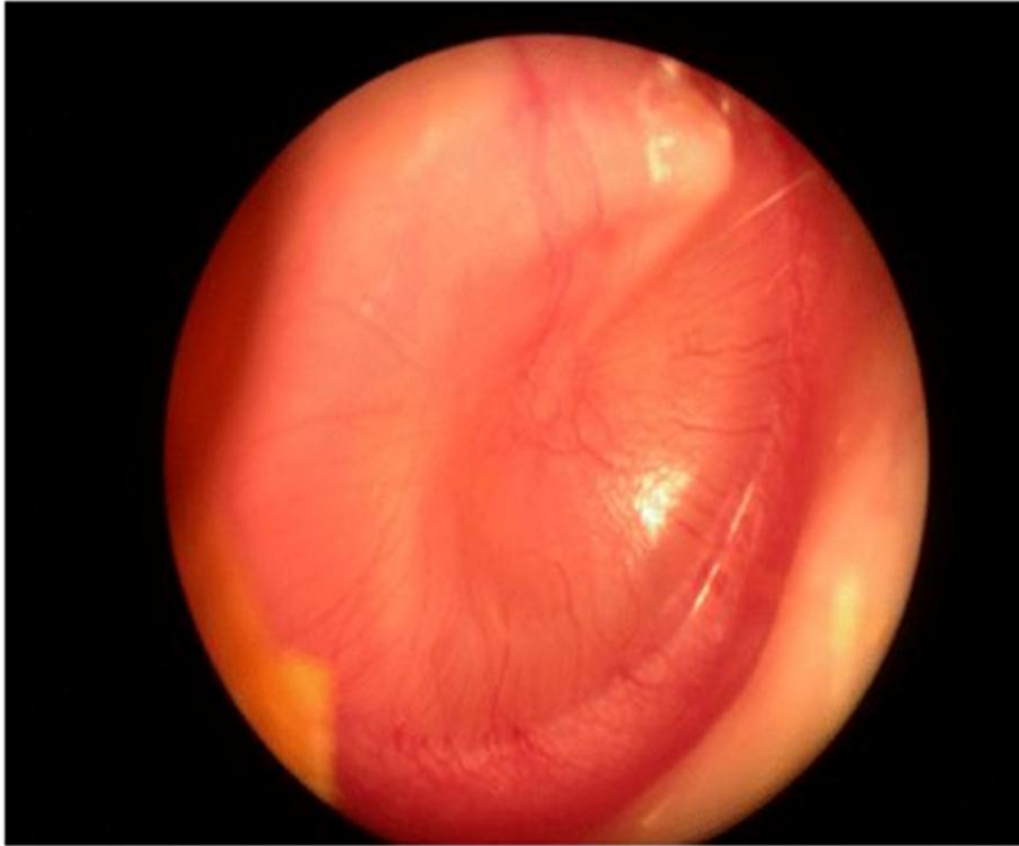
Culture & Sensitivity of the discharge + Antibiotic ear drops + decongestant + CLEANING

Before & After :

Anti-pyretic & Analgesic & Antibiotic

INDICATIONS FOR MYRINGOTOMY:

- A) PERFORATION IS SMALL
- B) PAIN FOR 48 HRS
- C) FACIAL NERVE AFFECTION



ASOM

فريق
المحافظ

Severe form of OM.

Patient: ill toxic children suffering from measles & other exanthemata.

Organism : virulent hemolytic strept.

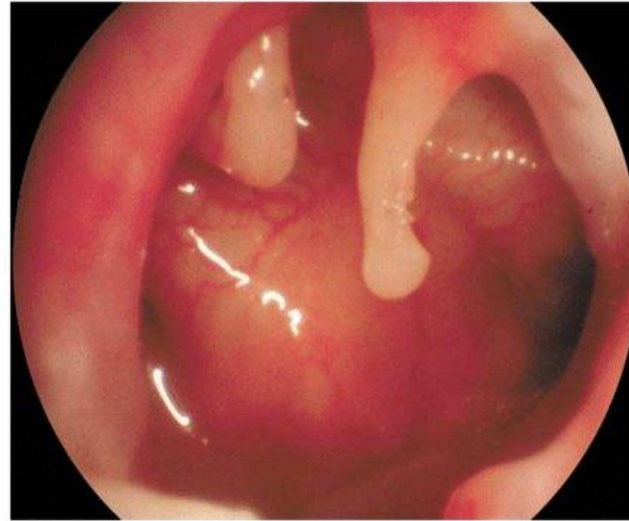
Pathology: Sloughing & necrosis.

Clinical picture:

Drum membrane perforation kidney shaped or subtotal or even marginal .

Foul smelling discharge

More severe deafness



Acute necrotizing OM

Chronicity of infec. , Cholesteatoma , Granulations , More complications

Treatment;

- ☐ Cleaning
- ☐ Culture & Sensitivity of the discharge So systemic & local Antibiotics are given
- ☐ Sequels & complications treatment.

فريق
المحافظ

Occurs as a complication of suppurative OM
by strept. hemolyticus

symptoms:

- Fever
- Increasing ear ache
- Profuse mucopurulent discharge

Signs:

- Profuse characteristic discharge with +ve reservoir sign.
- Tenderness & redness over mastoid.
- Periosteitis of the posterosuperior wall of bony EAC >>>Sagging (edema).
- Perforated drum.
- Conductive HL not relieved by speculum.
- Posterior auricular swelling
- Auricle is pushed outwards & downwards
- Finally, mastoid fistula may develop draining mucopus.



Mastoid Abscess

فريق
المحافظين



Mastoid fistula



Mastoid abscess

Investigations :

X-ray & CT

Treatment :

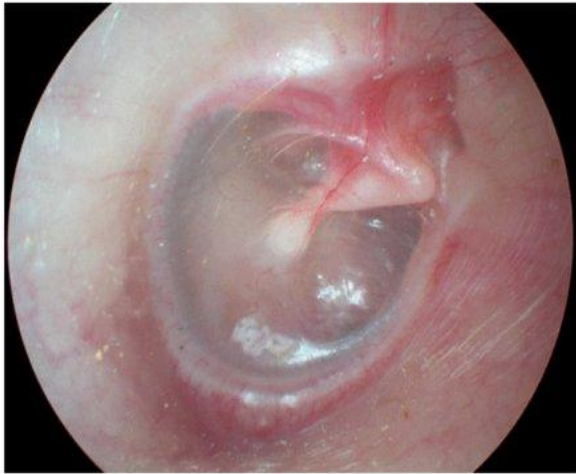
Medical

- Anti-pyretic, Antibiotic, Cleaning
- **Not sufficient in case of :**
- Impending complications, abscess, associated middle ear problem

Surgical

- Simple mastoidectomy.
- Simple incision of the abscess (in children >>>>>>underdeveloped mastoid)

فريق
المحافظ



Retracted TM



Retracted TM

Conditions in which drum is retracted:

1-Otitic Barotrauma.

Middle ear effusion , hemotympanum or perforation may occur.

2-Stage of tubal occlusion and catarrhal OM of ASOM.

Although it becomes bulging at ASOM stage before rupture.

3-OM with effusion.

Air bubbles, opaque tympanic, hair-line

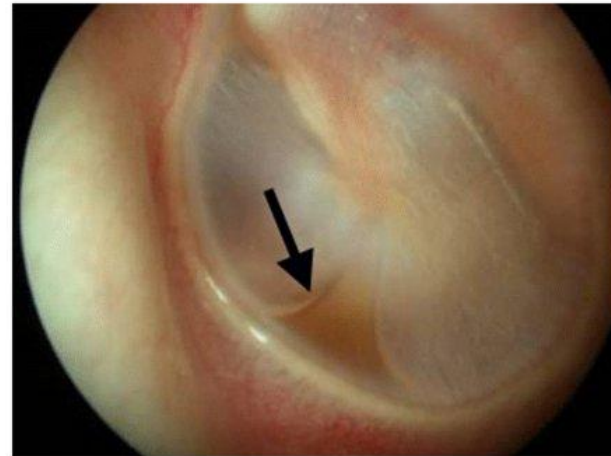
4-Adhesive OM.

Opaque, Irregular retraction, delineating underlying structures

فريق
المحافظ



Otitis media with effusion



Otitis media with effusion

Symptoms:

- *HL
- *Blockage feeling
- *Tinnitus.
- *Pain in acute cases.

Signs:

1-Otoscopy:

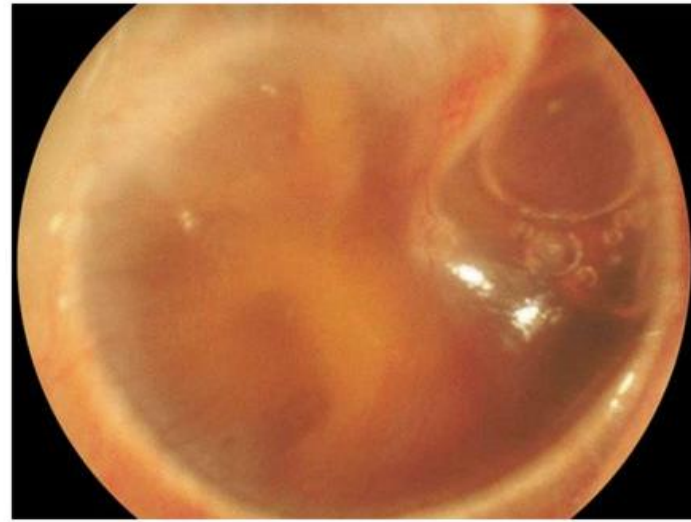
- I. Retracted & opaque TM.
 - II. Froth & hair line.
- 2-Seiglzation: restricted drum.
- 3-Tuning Fork Test & Audiometry: CHL.
- 4-Tympanometry: type b & absent acoustic reflex.

*Unilateral effusion
in old patient
without history of
inf. Suggests
NASOPHARYNGEAL
TUMOR*

فریق
المحافظین



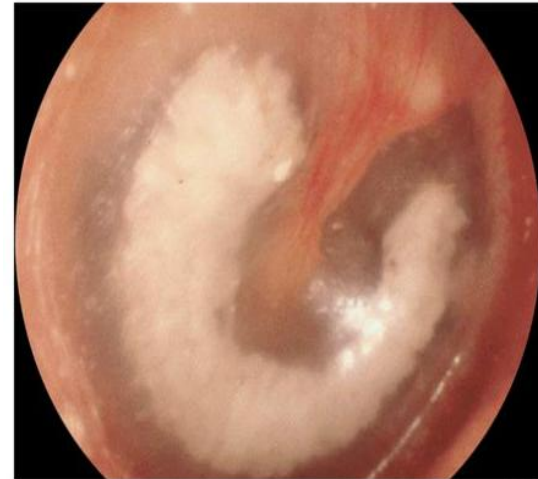
Otitis media with effusion



Otitis media with effusion

Complications:

- 1-Recurrent AOM.
- 2-Chronic retraction which may lead to atelectasis & adhesive OM.
- 3-Retracted pocket of the tympanic membrane >>>2ry cholesteatoma.
- 4-Tympanosclerosis (deposition of calcified hyalinized collagen beneath epithelium of the drum .
- 5-Developmental impairment >>>hearing impairment.



Tympanosclerosis

فريق
المحافظين



Otitis media with effusion



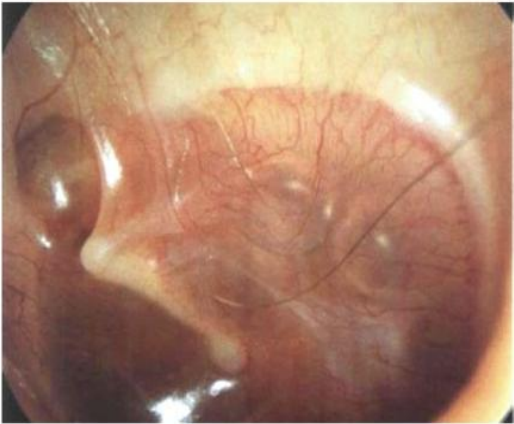
Tympanosclerosis



Tympanosclerosis



Otitis media with effusion

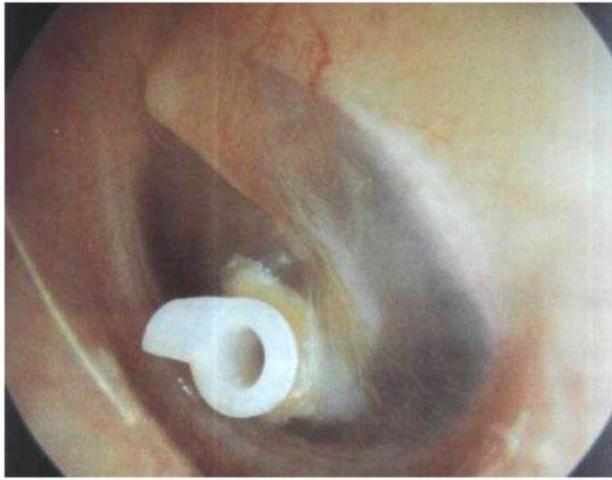


Otitis media with effusion

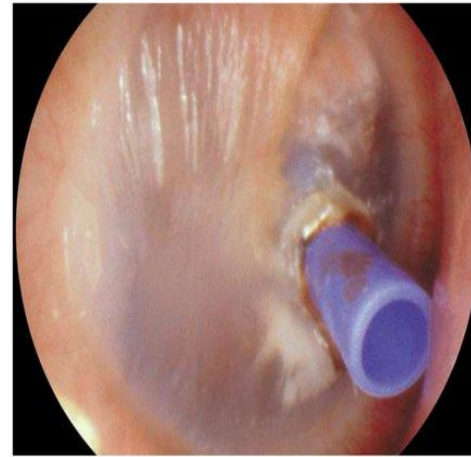


Otitis media with effusion

فريق
المحافظين

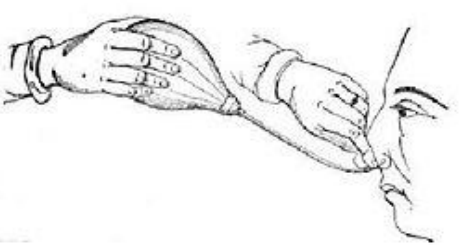


Grommet tube

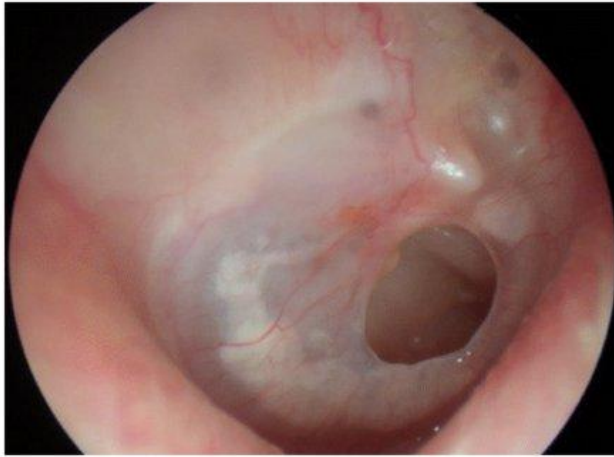


T-tube

Treatment :

Medical	ET inflation	Surgical
*Oral decongestant *Mucolytic agents *Antiinflammatory /Cortico *Antibiotic	*Valsalva's maneuver. *Politzerization (politzer bag) 	*Adenoidectomy. *Myringotomy (aspiration of ME exudate & placement of grommet tube) *Rare cortical mastoidectomy

فريق
المحافظ



Safe CSOM with central perforation

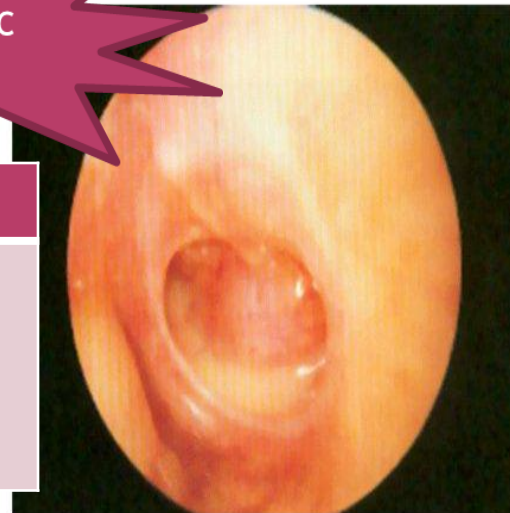


Safe CSOM with central perforation

Organisms : Gram +ve
MUCOSITIS
Symptoms:

**Tubotympanic
 CSOM**

Otorrhea	Deafness
1. Mucopurulent 2. Profuse 3. Oderless 4. Intermittent	1. CHL 2. Mild to moderate

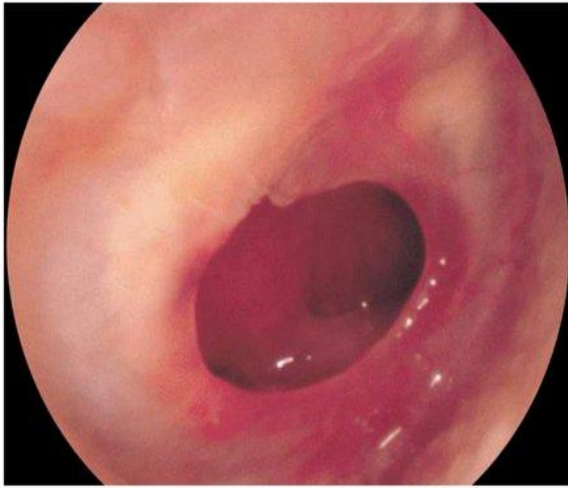


Safe CSOM with subtotal perforation (Wet)

Signs:

- Perforation Central in pars tensa.
- Cellular mastoid on Xray.
- G +ve organisms in culture.

فريق
 الملاحظة



Safe CSOM with central perforation



Safe CSOM with subtotal perforation (Wet)

Treatment:

- Antibiotherapy according to culture.
- Chemical cautery of perforation
- Myringoplasty
- Tympanoplasty (ossicular involvement)



Safe CSOM with subtotal perforation

Tubotympanic
CSOM

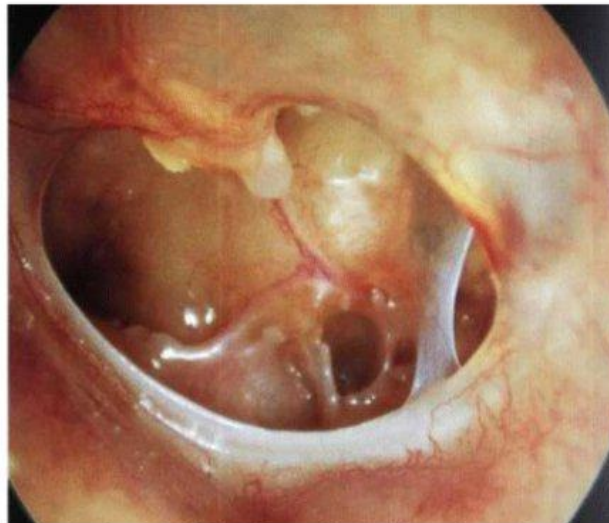
فريق
المحافظ



Safe CSOM with central perforation (Wet)

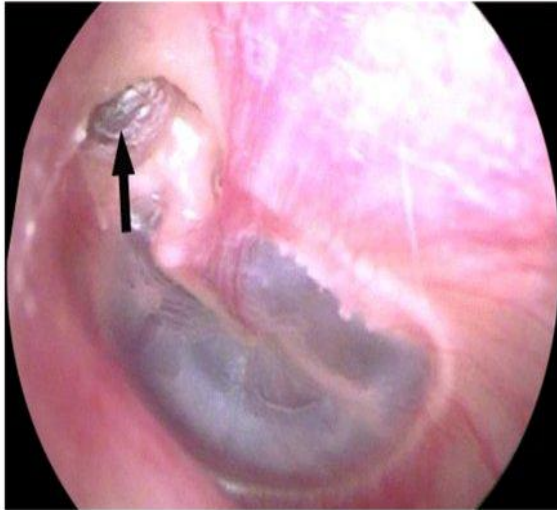


Safe CSOM with subtotal perforation
(Dry or Inactive)

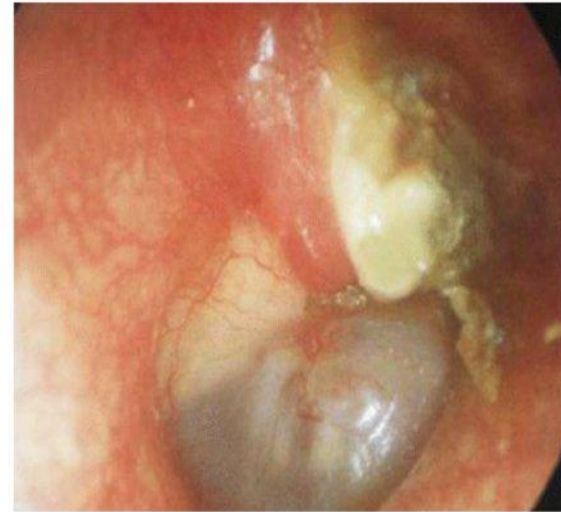


Safe CSOM with subtotal perforation
(Dry or In active)

فريق
المحافظ



Attic retraction pocket



Unsafe CSOM with Attic cholesteatoma

Organism:

- Aerobic G -ve bacilli (proteus & pseudomonas).
- Anaerobic (bacteroids)

Symptoms:

Otorrhea	Deafness
1. Purulent	Moderate to severe CHL or mixed by TFT (Sign ☺)
2. Scanty	
3. Fetid odor	
4. Continuous	



Attic perforation

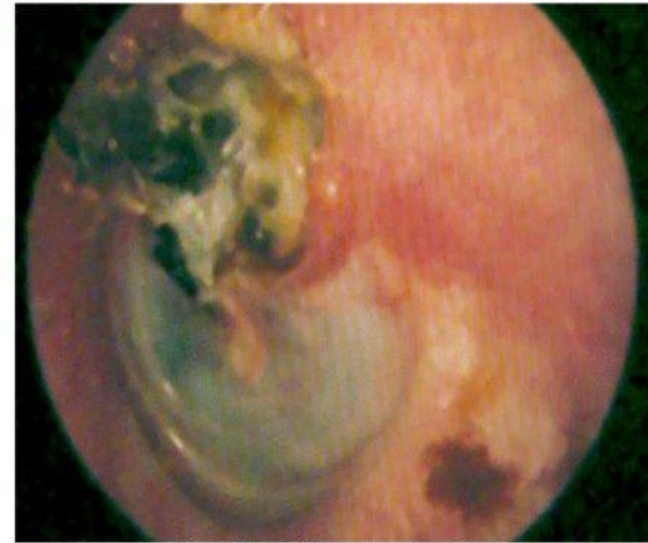
فريق
المحافظ

Atticoantral
CSOM



Attic perforation

Otoscopy



Unsafe CSOM with attic cholesteatoma

• Cholesteatoma	• Granulation	• Perforation
• Attic or posterosuperior	• Common • Red & fleshy • Usually posterosuperior	• 1ry : • Attic or posterosuperior • 2ry : • Reaches the annulus (marginal)

Investigations:

- Xray: acellular mastoid, filling defect (Cholesteatoma shadow).
- PTA : like TFT CHL or mixed due to inner ear involvement.
- Culture : gram -ve organisms.

Treatment :

- Only surgical >> Tympanomastoidectomy (tympanoplasty +mastoidectomy)

فريق
المحافظ



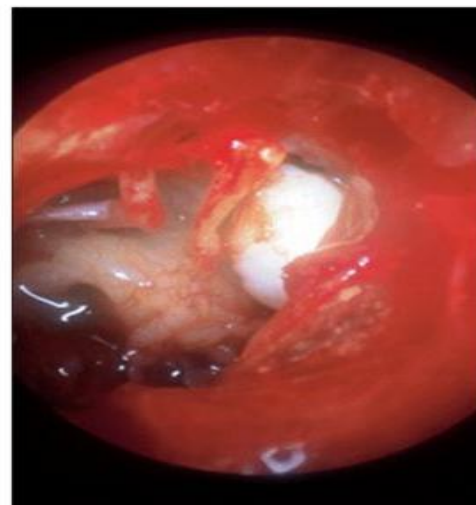
**Unsafe CSOM with posterosuperior
marginal perforation**



**Unsafe CSOM with posterosuperior
perforation and cholesteatoma**

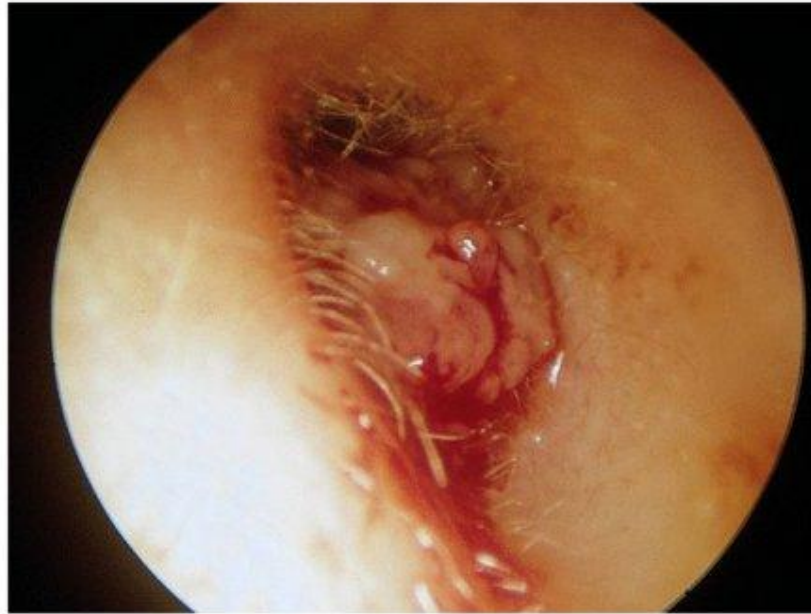


**Unsafe CSOM with posterosuperior
granulation tissue (Wet or Active)**



Congenital cholesteatoma

فريق
المحافظ



Squamous cell carcinoma of the EAC

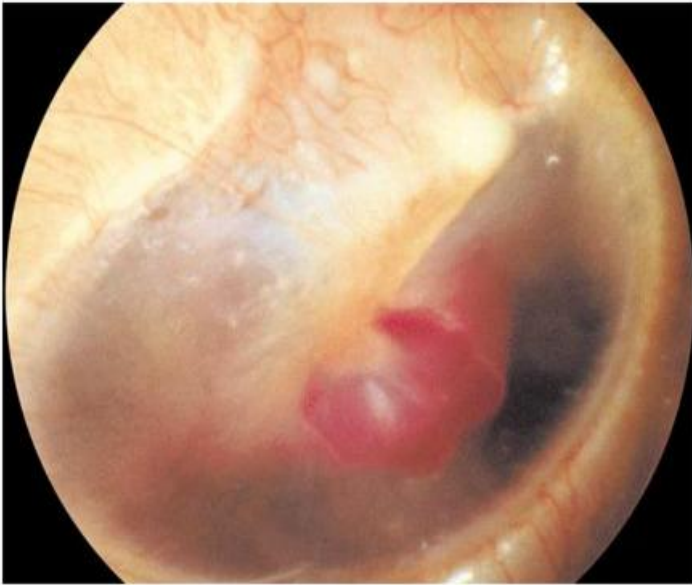
Treatment:

- Radical surgical excision with safety margins
- Radical neck dissection.

Clinically:

- Typical malignant ulcer >>>>>>>bleeding granulation or necrotic tissue
- Long exposure to sunlight and irradiation.

فريق
المحافظ



Glomus tympanicum



Glomus jugulare

Symptoms

- Pulsating tinnitus
- CHL
- Blood stained otorrhea or bleeding

Signs

- Red mass behind intact tympanic membrane.
- Bleeding polyp in EAC.
- Latey :Facial palsy & jugular foramen syndrome.

فريق
المحافظ

No biopsy
Excised
surgically



Glomus tympanicum

Investigations :

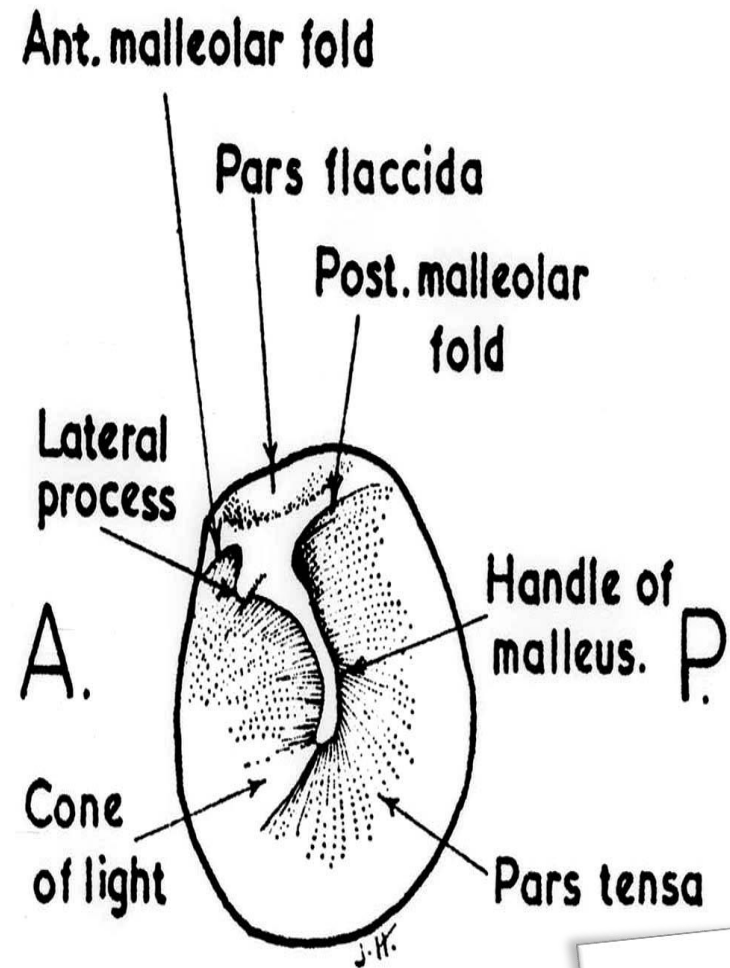
- CT & MRI >>> Salt & pepper appearance.
- Angiography

فريق
المحافظين

NORMAL TYMPANIC MEMBRANE :

- ◉ If we find a normal TM + CHL the problem may be:
- ◉ Otosclerosis >>> (Schwartz sign may be noticed in active otosclerosis but TM is normal).
- ◉ Ossicular dissection >>> associated with trauma.

GENERALLY you depend on history & clinical picture in normal TM spot ☺.



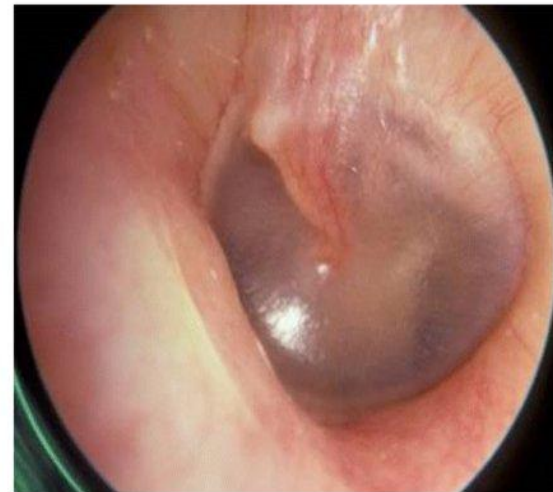
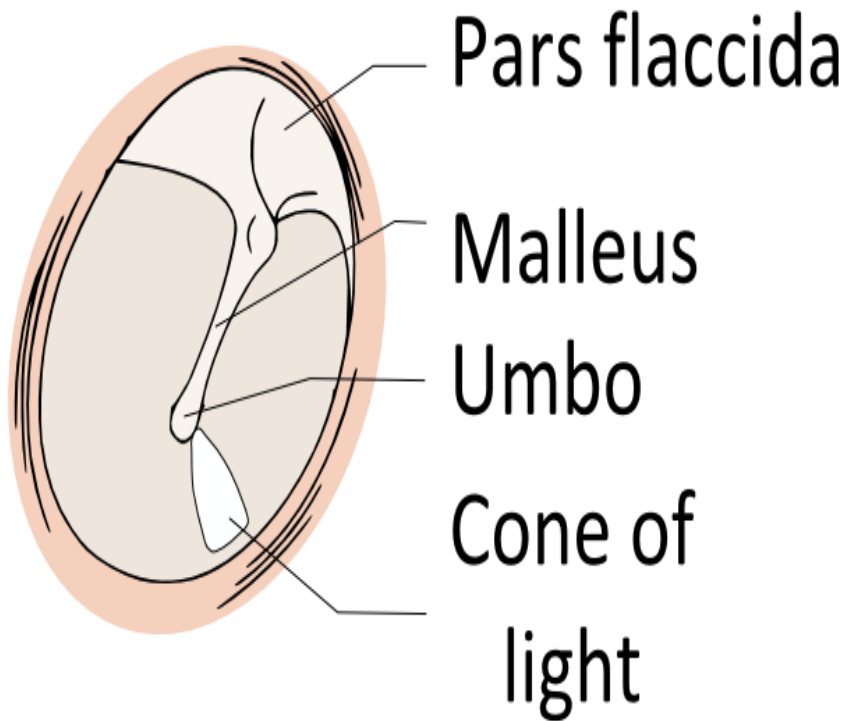
فريق
المحاضرين



Normal TM

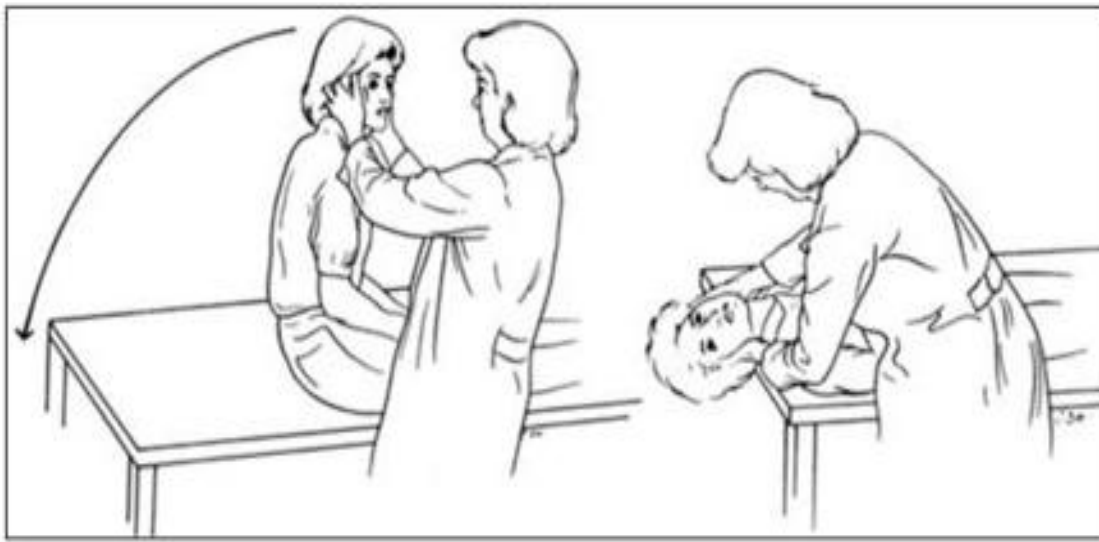


Normal TM



Normal TM

فريق
المحافظ



Dix and Hallpike Maneuver

- Used to diagnose benign paroxysmal positional vertigo

Method :

- rapid movement from erect sitting to supine position while head hanging >>> nystagmus & vertigo.

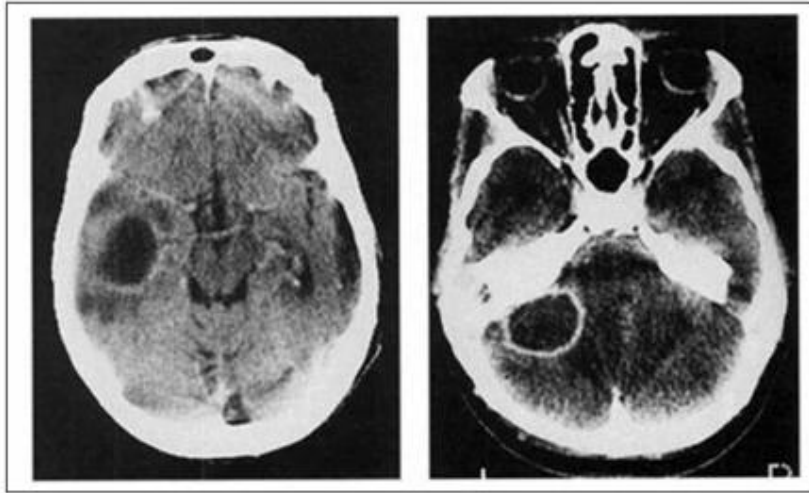
Symptoms of BPPV:

- only episodic vertigo lasts for few seconds or mins.

Treatment :

- Eply's maneuver & Singlar nerve (Posterior Ampullary) section.

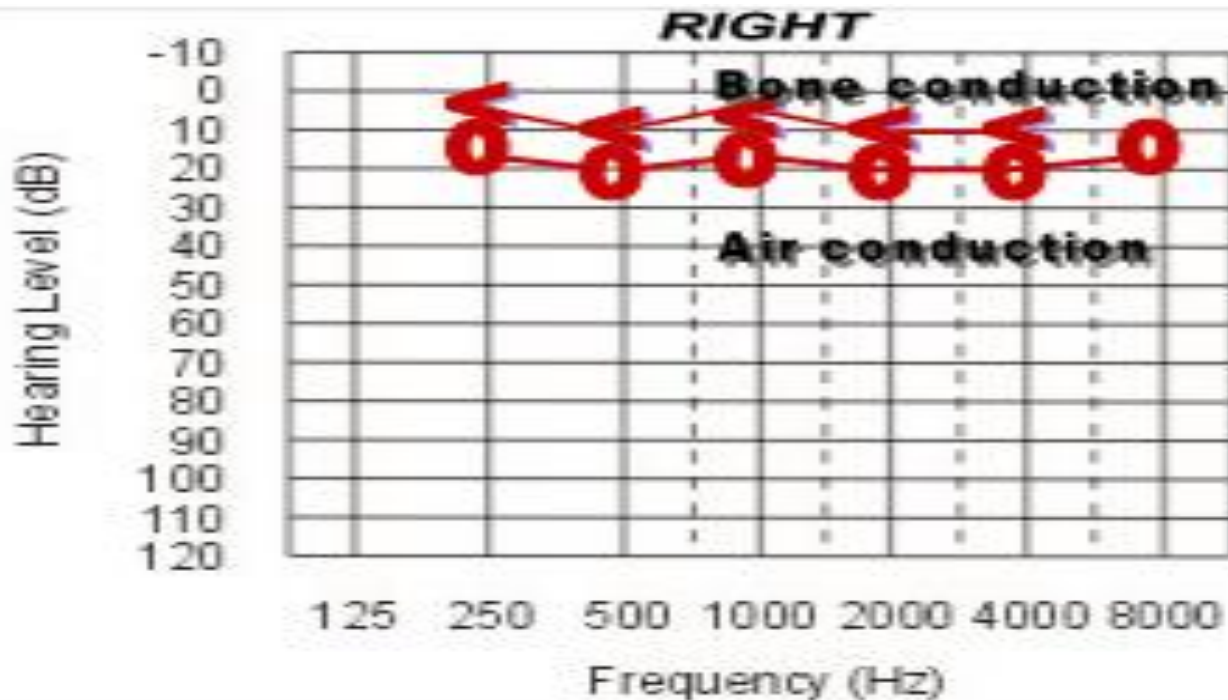
فريق
المحافظ



Otogenic Brain Abscess

Most lethal complication of suppurative OM

فريق
المحافظين



Normal

Pure tone audiometry:

Measures for pure tone sounds to which the ear is most sensitive (250-8000 Hz in octave interval)

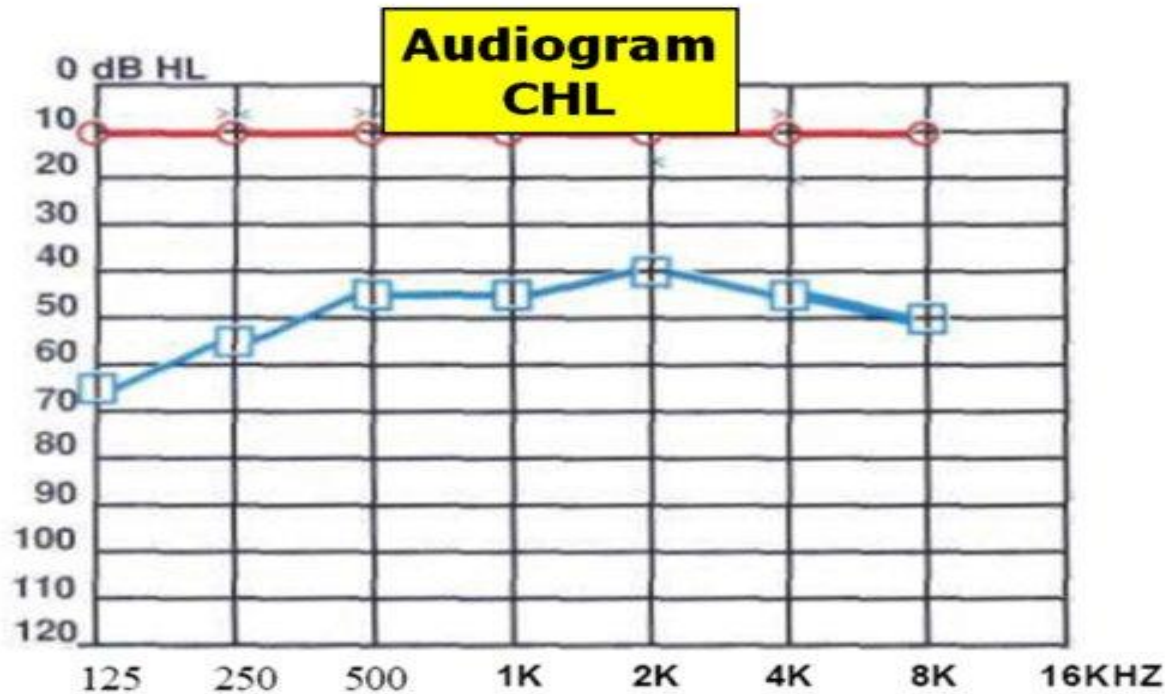
Hearing threshold:

The least sound intensity in dB that the ear can detect (below which no sound is detected).

Normal hearing:

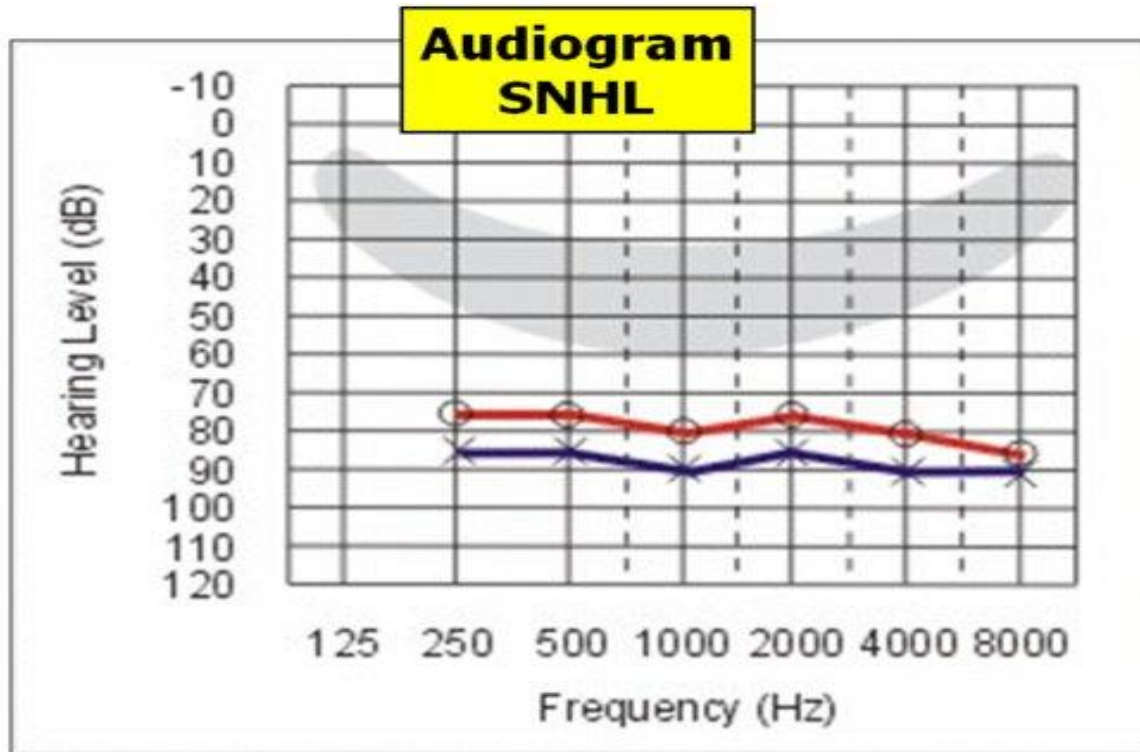
PTA thresholds equal to or below 25 dB (both AC & BC)

فريق
المحافظ



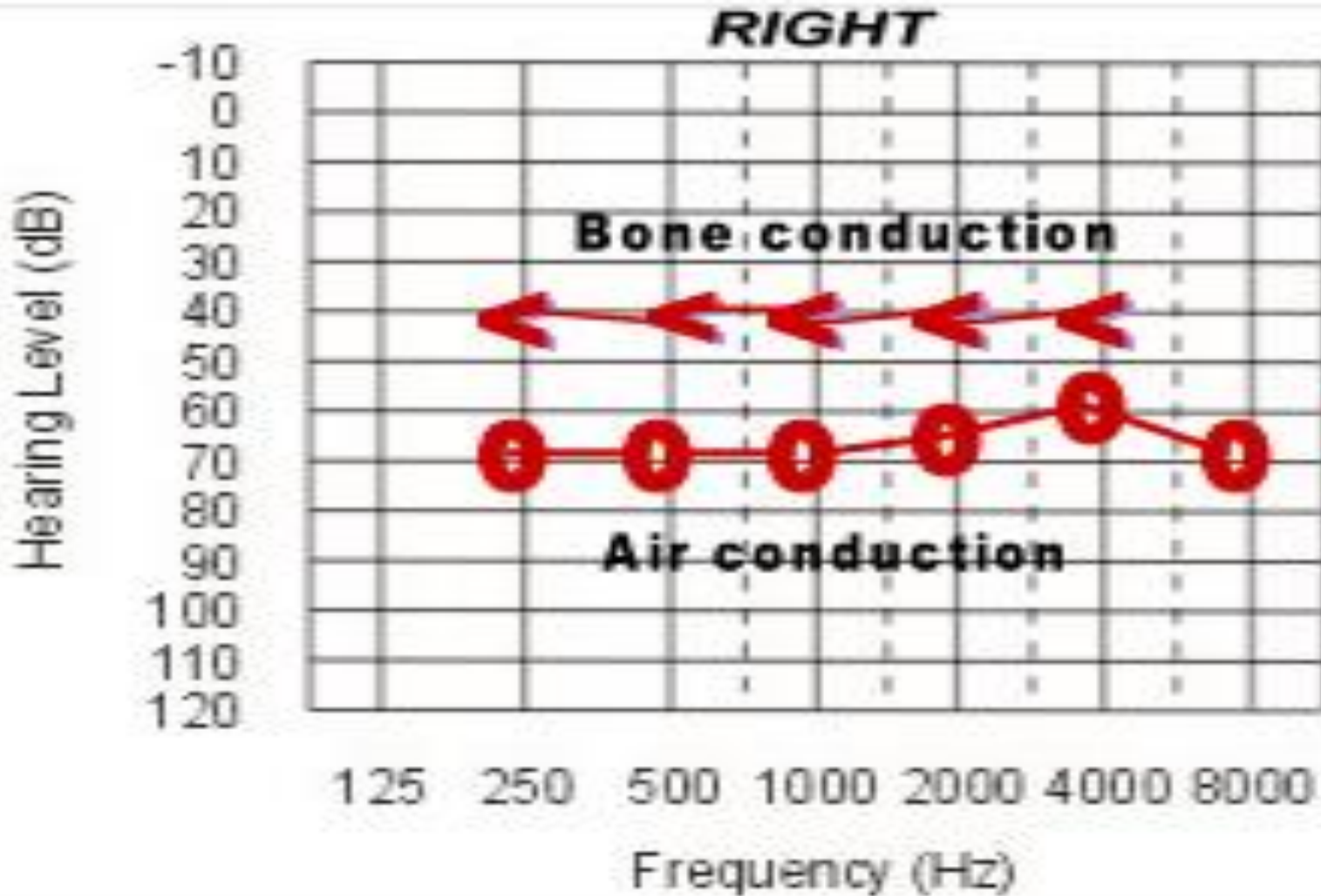
Conductive hearing loss
There's air-bone gap & AC more than 25 dB

فريق
المحافظين



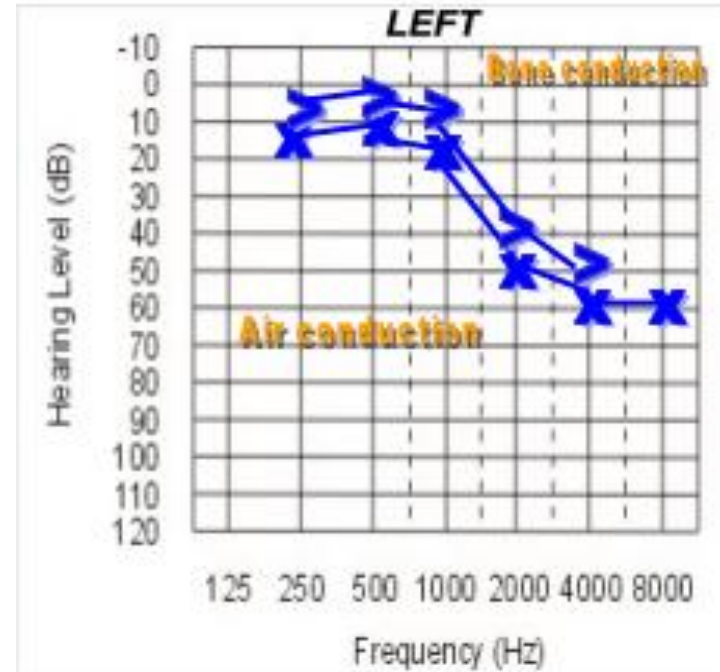
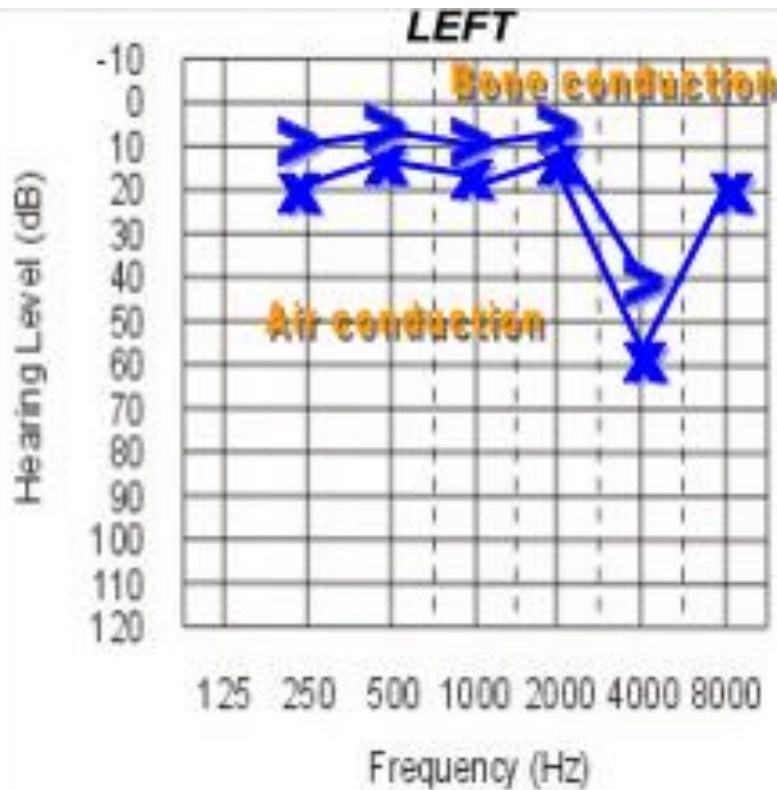
Both AC & BC are more than 25 dB

فريق
المحافظين



Both AC & BC are more than 25dB + Gap between them

فريق
المحافظ



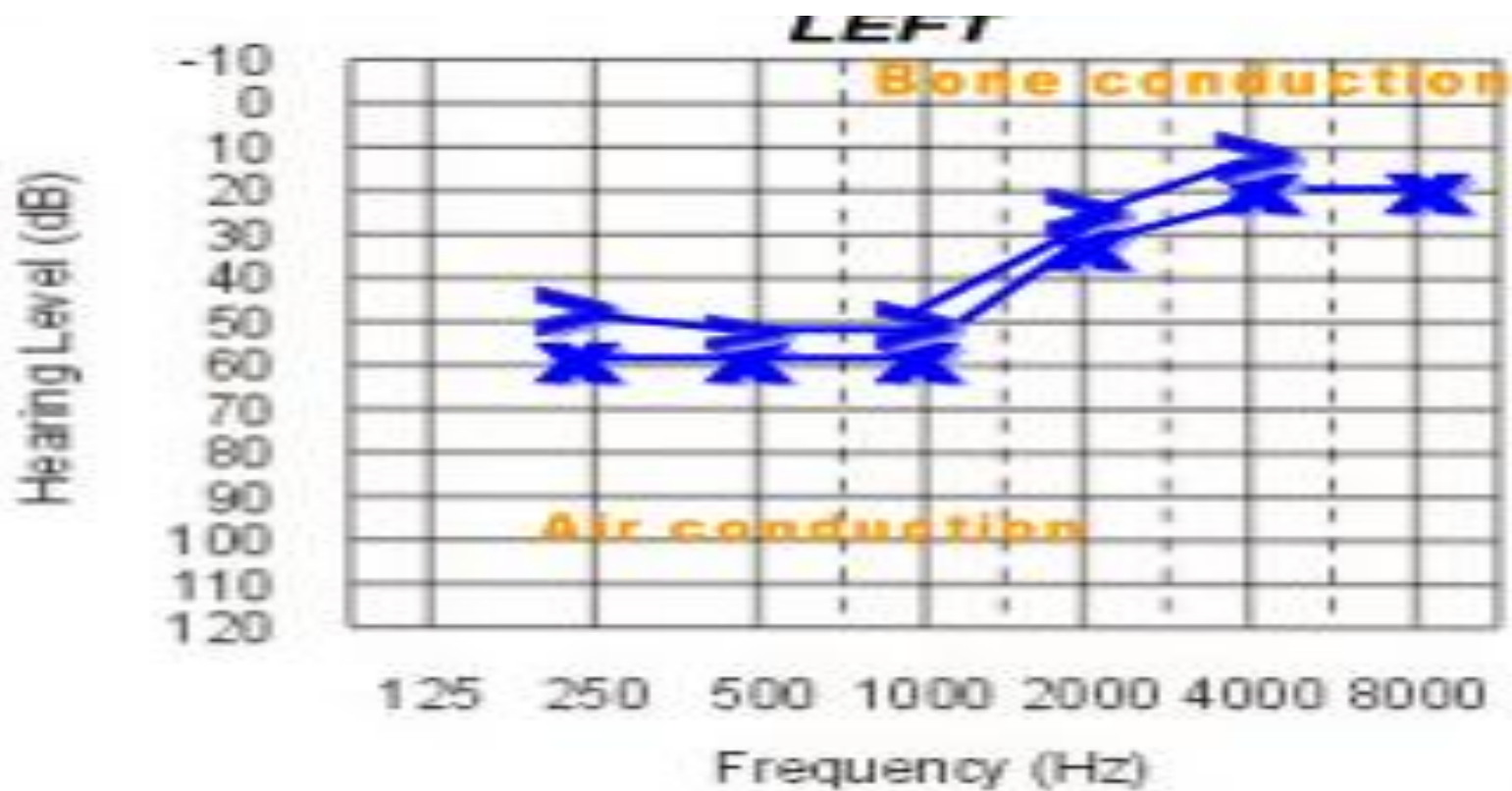
Acoustic dip
In case of acoustic trauma by
fireworks & explosions



High frequency SNHL:

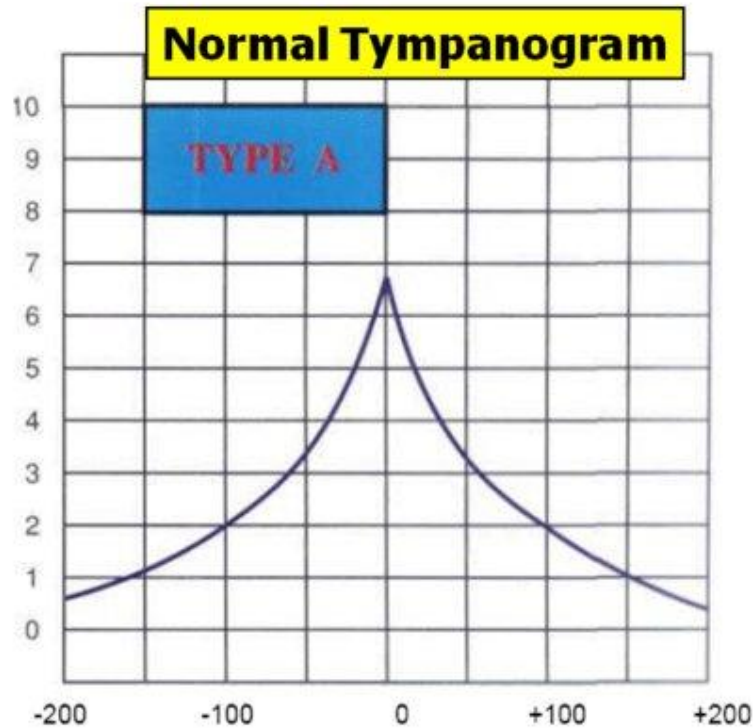
- 1-Presbycusis.
- 2-Otosclerosis.
- 3-Toxic (aminoglycosides).
- 4-Heredofamilial.
- 5-Acoustic neuroma.

فريق
المحافظ



Low frequency SNHL:
In sudden hearing loss, and Meniere's disease.

فريق
المحافظ



What's tympanometry?

Impedance meter measures the opposition of middle ear to flow of acoustic energy

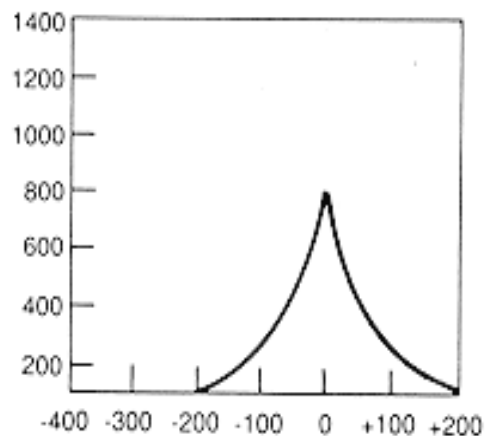
What does tympanometry measure?

A-Degree of elasticity.

B-Pressure in middle ear.

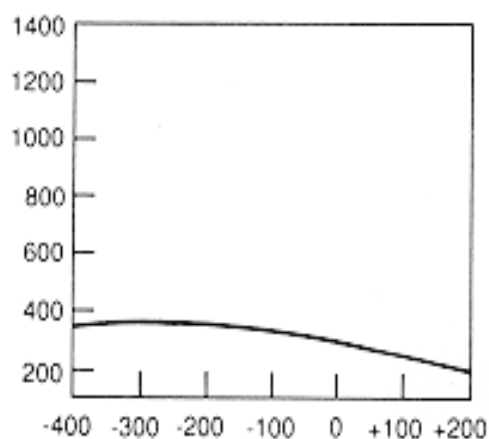
فريق
المحافظ

Type A



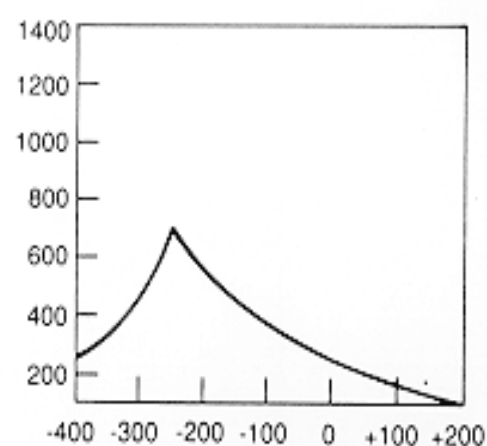
Normal

Type B



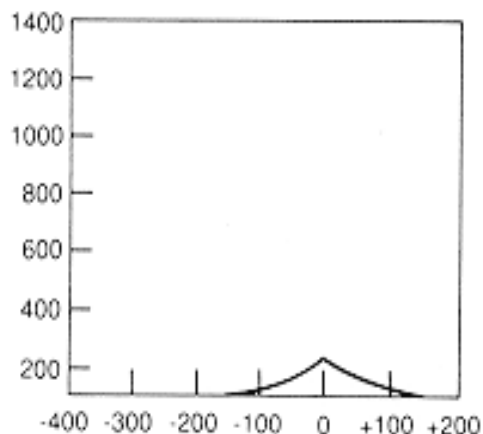
ME effusion

Type C



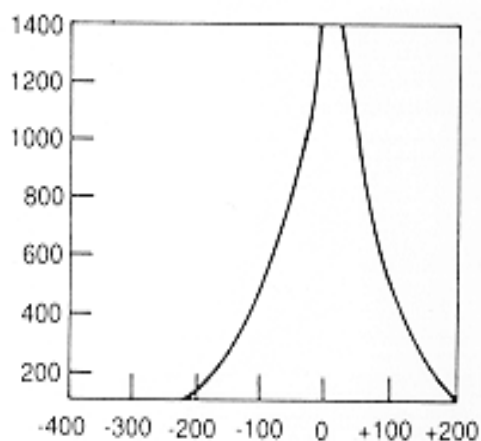
ET dysfunction

Type As



Otosclerosis

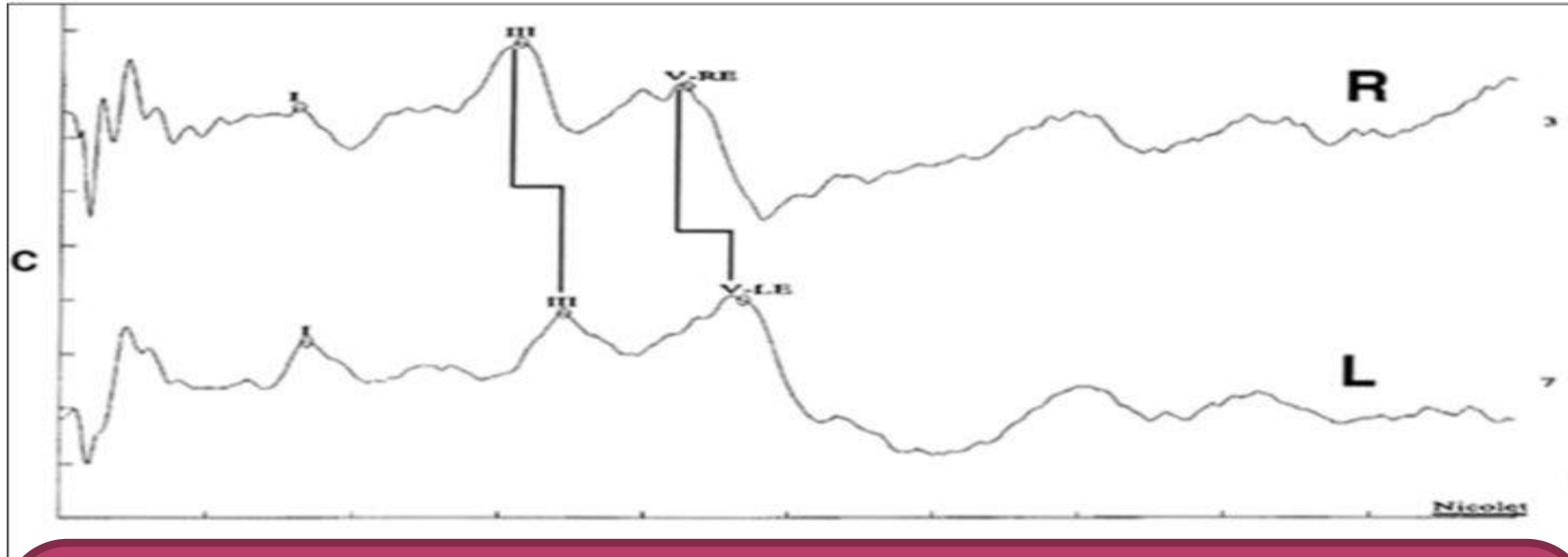
Type Ad



Drum scarring &
disconnected
ossicles

فريق
المحافظ

ABR latencies compare both sides



Auditory Brain Stem Response :

Measure the voltage generated in brain stem giving 5 waves.

Importance:

- 1-Measure hearing in newborn , malingerer, mentally retarded.
- 2-Measure the condition of neural input in case of neurologic disorders .
- 3-Differentiate between sensory and neural lesions.

فريق
المحافظ



Rinné test :

NORMAL:

Air conduction is better +ve.

CHL:

Bone conduction is better -ve.

SNHL:

Air conduction is better but reduced >>short +ve Rinne

فريق
المحافظ

Weber test

Normal :

both ears hear equally (central weber)

CHL :

lateralize to diseased ear.

SNHL :

lateralize to normal ear.



Siegel's otoscope

- Used in GELLE test
- NORMALLY, Bone conduction is diminished by movement of drum & ossicles.
- In otosclerosis >>>> no CHANGE.

فريق
المحافظ

TEST YOURSELF 😊



فريق
المحافظ



- ◉ Identify ?
- ◉ what's the Management ?
- ◉ What are the Complication ?

فريق
المحاضرين

- ◉ Auricular haematoma
- ◉ By evacuation and good compression

- ◉ Identify
- ◉ What are the Complications ?



فريق
المحاضرين

- ◉ Herpes zoster oticus
- ◉ Complications:
 - 1- cartilage necrosis & Couliflower deformity
 - 2- facial palsy
- ◉ Key sign : vesicles
& minor ulcers

- ◉ Identify ?

- ◉ Complications ?

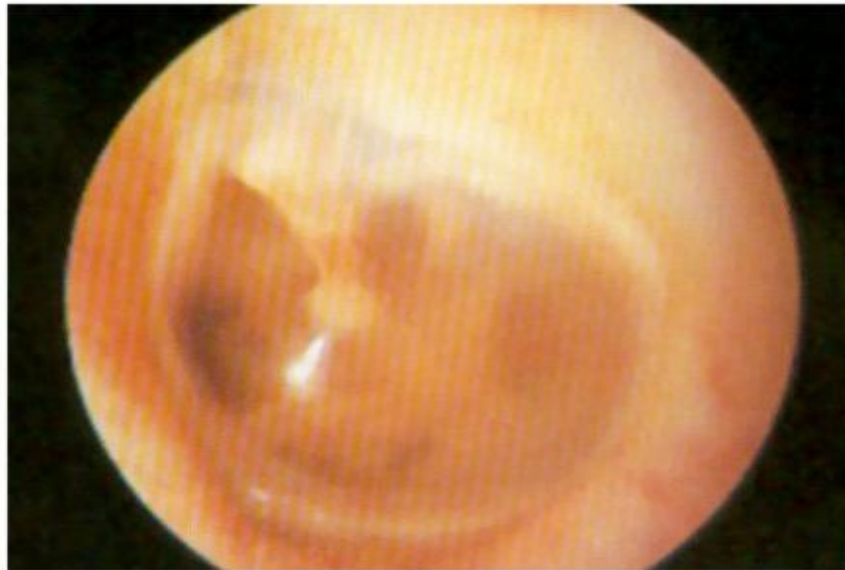


فريق
المحاضرين

- ◉ Perichondritis

- ◉ Complications:
cartilage necrosis & Couliflower deformity

- ◉ Identify ?
- ◉ What is the disease giving that otoscopy ?



فريق
المحافظ

- ◉ Normal TM
- ◉ Otosclerosis or any disease in inner ear
(depends on history and clinical picture)



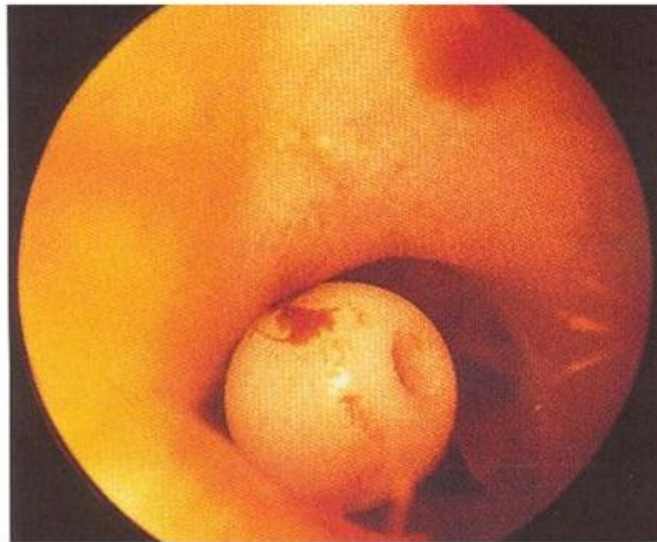
- ◉ Identify ?
- ◉ Management ?

فريق
المحافظ

1- FB ear (animate)

2- by killing it by alcohol or oil first then ear wash or suction

فريق
المحافظ



- ◉ Identify ?
- ◉ What are the complications?
- ◉ How to manage ?

فريق
المحاضرين

- ◉ FB in ear
- ◉ superadded infection - TM perforation
- ◉ Remove it by hooks

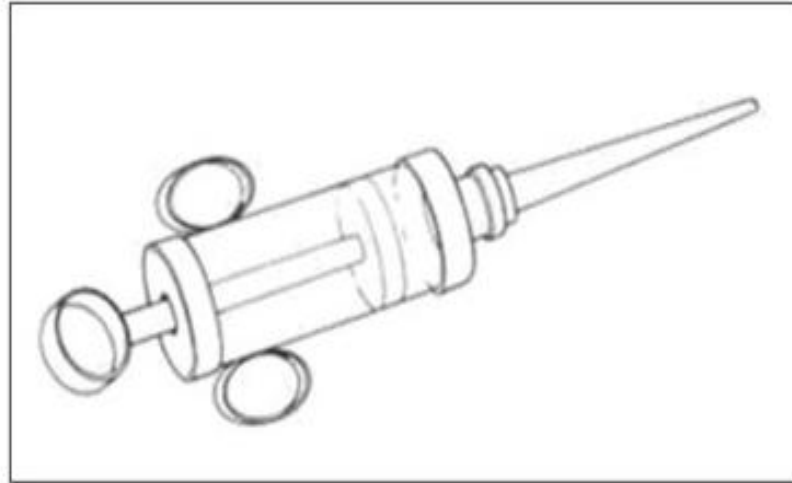


○ Identify ?

○ How to management it ?

فريق
المحافظ

- ◉ Impacted wax
- ◉ The wax is softened first by glycrine bicarbonat then removed by ear wash or suction



- ◉ identify?
- ◉ What are the indications?
- ◉ Contraindications ?
- ◉ Complications?

فريق
المحافظين

- ◉ Ear wash syringe

- ◉ Used in :

- 1- impacted FBs except (vegetative and large FB)

- 2- otomycosis cases

- 3- impacted wax after softened by glycerine bicarbonate)

- ◉ Contraindicated in :

- 1-TM perforation

- 2- acute otitis externa

- 3- recent trauma

- 3-vegetative FBs

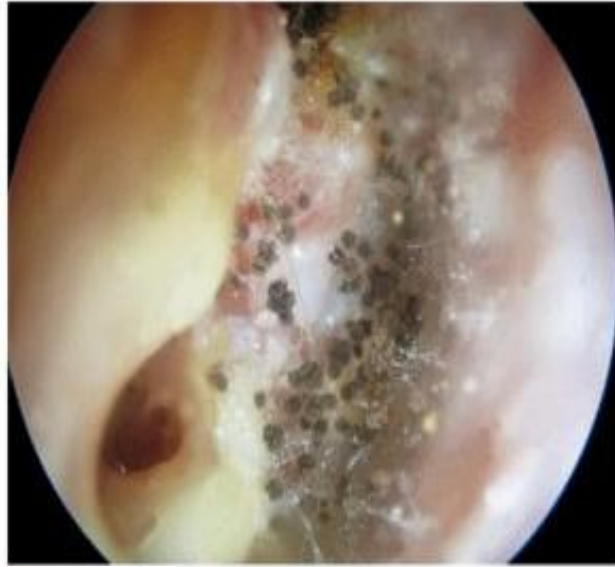
- ◉ Complications:

- 1- caloric sensation due to stimulation of SCC

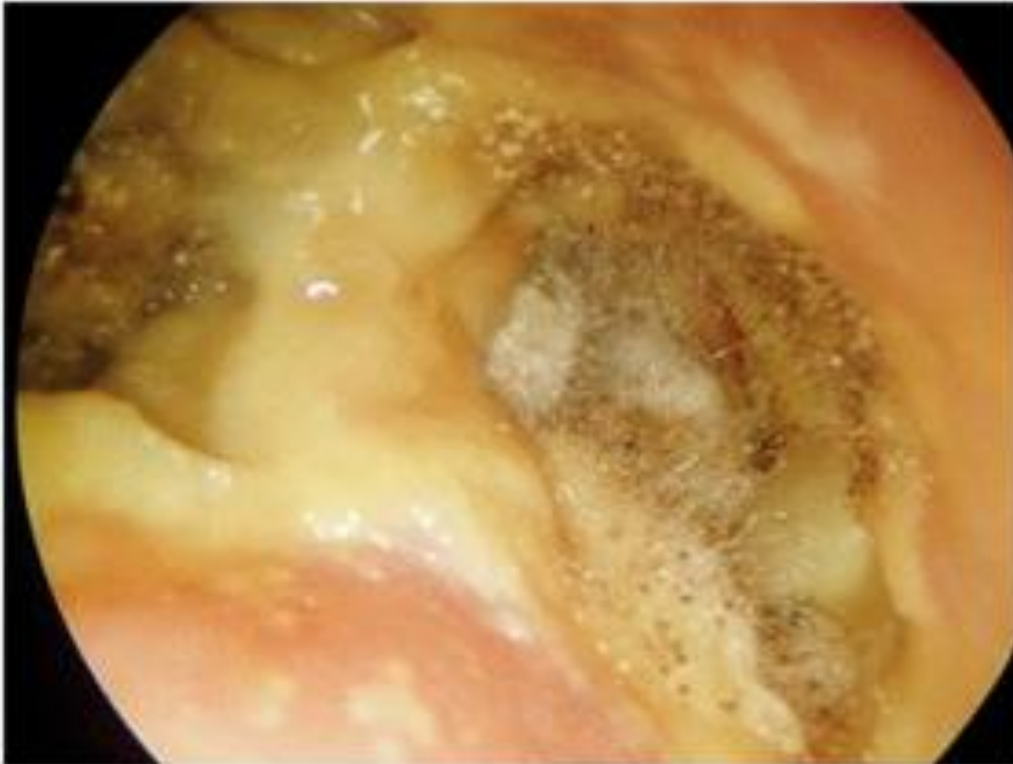
- 2- cough and syncope dt stimulation auricular br of vagus

- 3- external otitis dt use of contaminated syringe

فريق
المحافظين



- ◉ What's your diagnosis ?
- ◉ How to manage it ?



فريق
المحافظ

- ◉ Otomycosis
- ◉ Management:
 - 1- cleaning the ear and suctioning
 - 2- local antifungal (clotrimazole)
- ◉ Key history : itching and irritation

- ◉ What's ur diagnosis ?
- ◉ What is the causative organism ?



فريق
المحافظ

- ◉ Fruncule (acute localized otitis externa)

- ◉ Staph.aures

- ◉ Key history :

Pain when pressing on tragus or pulling auricle



فروغ
المحافظ



- ◉ What's ur diagnosis ?
- ◉ What are the investigations?
= how to follow up this case ?
- ◉ How to manage ?

فريق
المحافظ

- ◉ Malignant otitis externa
- ◉ investigations :
 - 1- ESR
 - 2- biopsy from granulation tissue
- ◉ Management :
 - 1- control DM
 - 2- antibiotics (systemic or ear drops)

Key sign in pic: granulation tissue at the floor of ext.ear

Ket history : diabetic pt - old aged pt -along skull base

◉ Identify ?



فريق
المحافظ

- Exostosis

- Key history : bilateral - multiple

◉ Identify ?

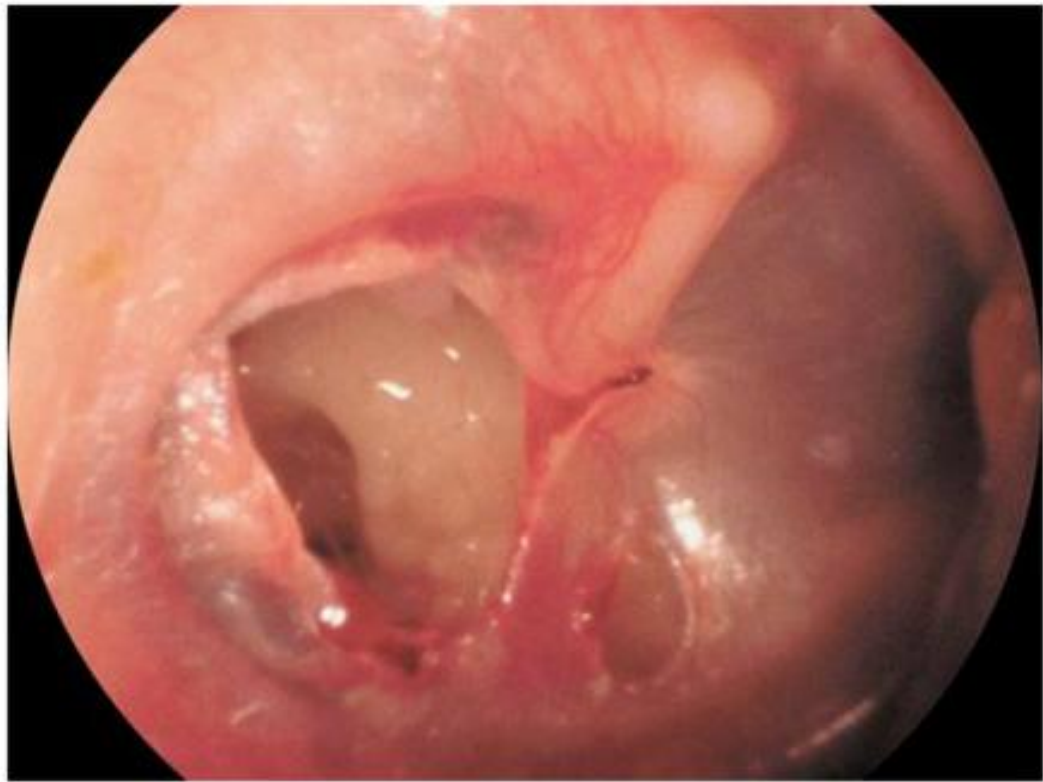


فريق
المحافظ

- Osteoma

- Key history : unilateral - single

فريق
المحاضرين



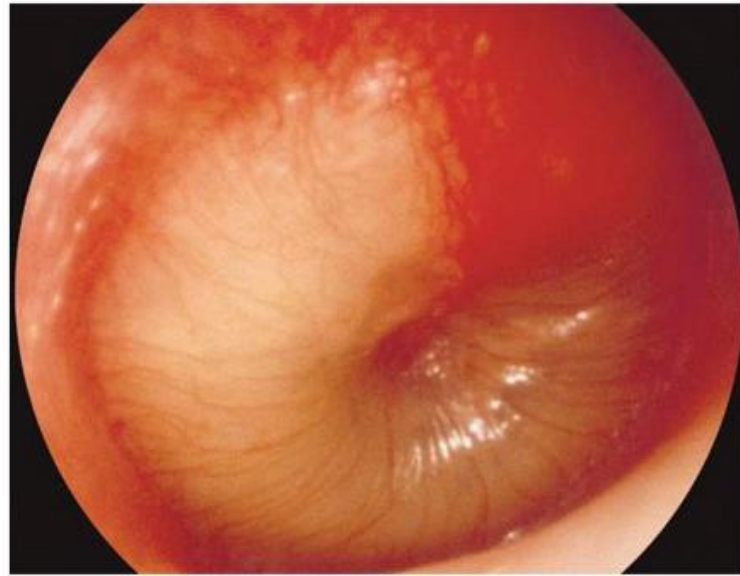
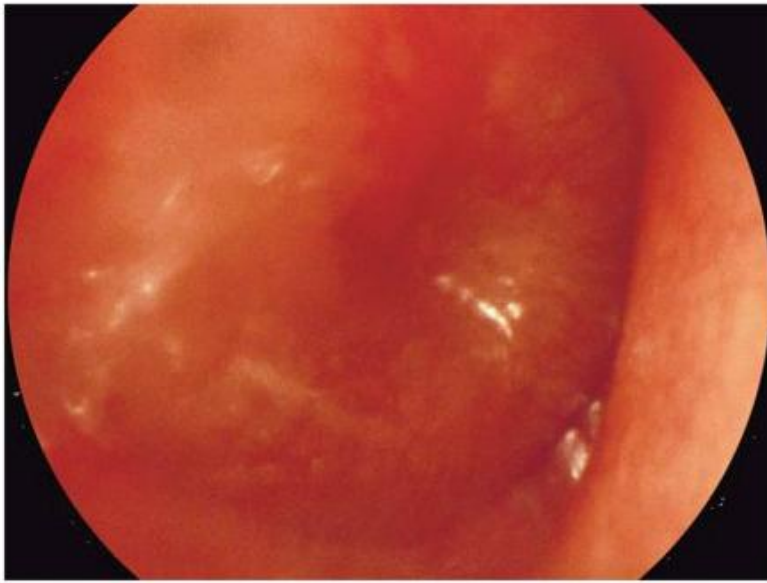
◉ What's ur diagnosis ?

فريق
المحافظ

- ◉ Traumatic perforation

- ◉ N.B: irregular edges - blood clot around perforation

فريق
المحافظين



- ◉ What's ur dignosis ?
- ◉ How to manage this case ?
- ◉ Mention one complication resulting from it

فريق
المحافظين

◉ Acute suppurative otitis media

◉ Management :

-antibiotics

- Antipyretics

- Analgesic

- Myringotomy

◉ Complication :

Facial palsy

فريق
المحافظ



- ◉ What's ur diagnosis ?
- ◉ How to management it ?
- ◉ Investigations ?
- ◉ What are the complications?

فريق
المحافظ

- ◉ Acute mastoiditis
- ◉ Management by : mastoidectomy - antibiotics
- ◉ Investigations: x-ray (cloudy mastoid - cellular mastoid) / CT
- ◉ Complications :
Mastoid abscess - mastoid fistula -bezold's abscess
- zygomatic abscess - petrositis

○ What's ur diagnosis ?



فريق
المحافظ

● Mastoid abscess

◉ Diagnosis ?



فريق
المحافظ

● Mastoid fistula

◉ What's ur diagnosis ?



فريق
المحافظ

◉ Retracted TM

فريق
المحافظ



- ◉ What's ur diagnosis ?
- ◉ What is the cause of this case ?
- ◉ What are the common complications ?

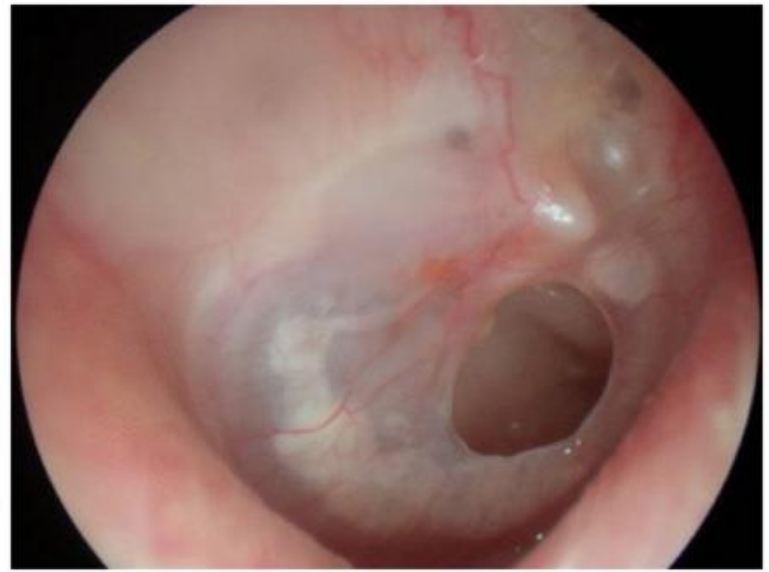


فريق
المحاضرين

- ◉ Otitis media with effusion
- ◉ Causes : Eustachian tube dysfunction or after ASOM attack
- ◉ Complications:
 - retraction pocket of TM
 - Chronic retraction of TM
 - Cholesteatoma
 - tympanosclerosis

⦿ What's ur diagnosis ?

⦿ Investigations ?



فريق
المحافظ

- ◉ Safe CSOM with central perforation

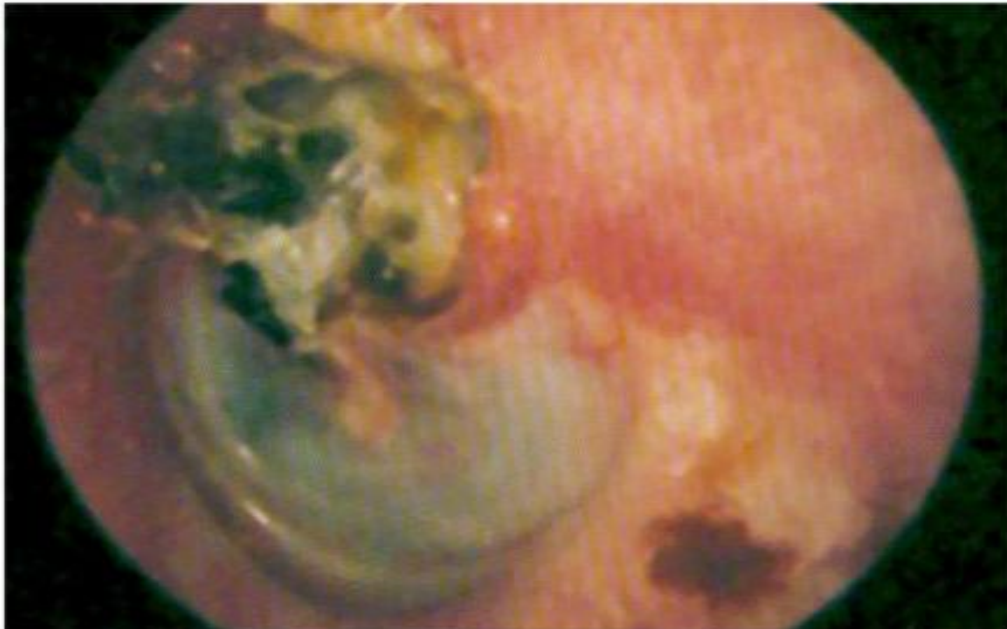
- ◉ Investigations :

By PTA (conductive hearing loss)

Xray (hazy mastoid)

فريق
المحاضرين

◉ What's ur diagnosis ?



فريق
المحافظ

- ◉ Unsafe CSOM with attic cholesteatoma

○ What's ur diagnosis ?

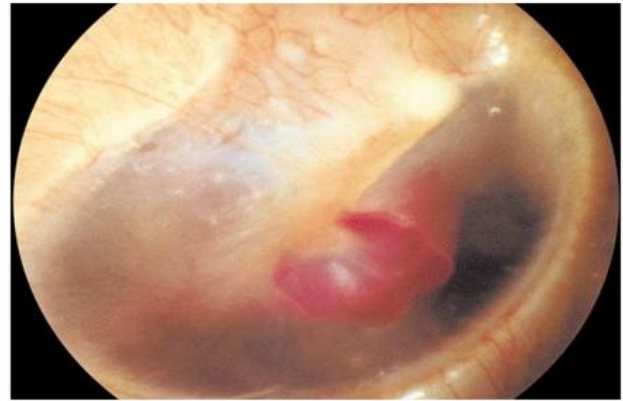


فريق
المحافظ

● Acute necrotizing O.M

فريق
المحافظ

- ◉ What's ur diagnosis ?
- ◉ Describe it ?
- ◉ What are the investigations?



فريق
المحافظ

- ◉ Glomus tumor
- ◉ Reddish mass behind intact TM
- ◉ Investigation: tympanography -MRI- CT

THANK YOU

MAHMOUD ASHMAWY

MANAR MAHMOUD

فريق
المحافظين